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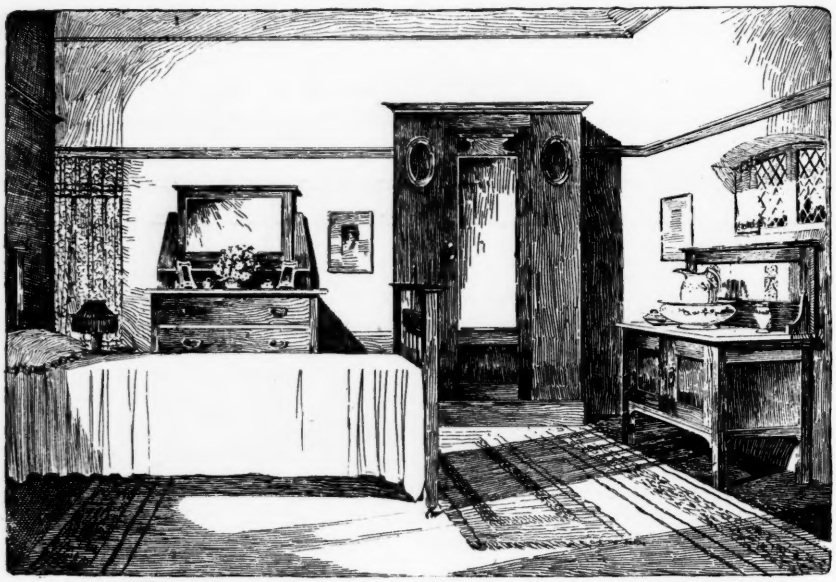

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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—6TH YEAR. SYDNEY: SATURDAY, NOVEMBER 22, 1919. No. 21.

THE LEUCOCYTES IN TRENCH FEVER AND ALLIED OBSCURE PYREXIAS.

By **William Keith Inglis, M.D., Ch.M. (Sydney),**
Demonstrator in Pathology, Sydney University.

Introductory.

During the war trench fever probably accounted for more wastage in the Army in France than any other single disease.

McNee, Renshaw and Brunt(1) first showed that it is of infective nature, as was proved by its ready transmission from one person to another by the blood. Their work has been amply confirmed by the members of the American Commission(2) and other observers. That the louse is the common agent by which infection is carried is now generally accepted as an established fact. According to Hurst(3) the incubation period may vary between 15 and 25 days. In the experimental transmissions of McNee and his fellow-workers, it varied from 6 to 22 days.

Ætiology.

The organisms to which an ætiological significance has from time to time been attributed are many and varied. They include:—

(1) The enterococcus (Houston and McCloy) (4).
(2) A hæmogregarine (Dimond) (5).
(3) An organism provisionally assigned to the genus *Piroplasma* (Pappenheimer, Vermilye and Mueller) (6).
(4) Spirochætes in the urine (Patterson) (7) and (Sundell and Nankivell) (8).
(5) Spirochætes in the blood (Coles) (9).
(6) *Rickettsia* bodies (Arkwright, Bacot and Duncan) (10).
(7) A filter-passing virus, consisting of minute coccus-like bodies (Rose Bradford, Bashford and Wilson) (11).

Many of these have already been discredited and the ætiological significance of the remainder seems very much open to question.

In view of the expression of such conflicting opinions, it seems safe to assume that the infective organism remains undiscovered and, as no fatal case has occurred, the nature of the disease is still shrouded in mystery.

Classification.

The majority of the writers on the subject differ as to the methods adopted in classifying the various types. They also differ in their views as to the relation of one type to another.

Sundell and Nankivell(12) and Patterson (*loc. cit.*) restrict the term trench fever to the relapsing type, but a large group of observers, including McNee and his fellow-workers (*loc. cit*), consider that the various types are but different manifestations of one and the same disease.

In the following notes the cases are divided into (*i.*) those that show fever of a definite relapsing type and (*ii.*) those with continuous or irregular pyrexia. In my experience, the former are much less common than the latter. The second group has for convenience been arbitrarily divided into two sub-divisions, the first of these consisting of cases in which the evidence in favour of trench fever is fairly clear, the second including cases in which such evidence is less definite.

Clinical Manifestations.

A glance at the literature on the subject shows that there is great diversity of opinion among different observers concerning almost every feature of the disease and, while the ætiological factor remains unknown, an exact diagnosis is, in many cases, extremely difficult. Seeing that such conflicting views are held concerning the various clinical manifestations of trench fever, it is important that all cases regarded as trench fever should be described with as much detail as possible.

Onset.

Typically the onset is sudden, but it may be gradual. This is the usual experience and was the case in the present series.

Character and Site of Pain.

The experience with the present series of cases was in accord with the following brief résumé of the descriptions of various observers.

Headache is the rule in the early stage of the disease and, when associated with pain in the muscles of the neck and vomiting, may simulate meningitis.

In some cases the headache persists.

The characteristic pain is shin pain. It is worse during the pyrexial periods and especially at night time. In some cases it is practically absent during the apyrexial periods, whereas, in other cases, even when the temperature remains normal, the shin pains may be very severe.

Pain and tenderness are also felt in the lumbar, calf and thigh muscles, in that order of frequency. Pain in the abdominal muscles and muscles of the upper limbs also occurs occasionally.

Alimentary System.

The opinions of various observers differ widely, as the following statements show.

Hunt and Rankin(13) say that diarrhœa is never a symptom. In four of their thirty cases there was a little tenderness of the abdominal muscles. The spleen and liver were not enlarged.

Hughes(14) states that his Type C is associated with an acute form of diarrhœa, with blood and mucus in the stools.

Hurst (*loc. cit.*) says that in a few cases, in which constipation is generally present, there is some abdominal pain, with slight distension and tenderness, and there may be nausea and even vomiting at the onset. The condition in four of his first fifty patients suffering from the periodic type was diagnosed as appendicitis before admission to hospital. In the first attack the spleen is sometimes palpable.

Hunt and McNee(15) state that the bowels are generally constipated during the pyrexia, and vomiting

has sometimes occurred, possibly as a result of this. Diarrhœa is never seen, and its spontaneous occurrence would exclude a diagnosis of the disease. Routine examination of the abdomen has never revealed anything abnormal. The spleen has not been found enlarged, although special attention has been paid to this point in some hundreds of cases.

Patterson (*loc. cit.*) recognizes two types of pyrexia of unknown origin:—

(1) A disease with acute onset, with chills and vomiting, pain in the abdomen usually more marked in the right upper quadrant, often with enlargement of the spleen and herpes of the lips. If an attempt is made at a diagnosis, the patients are sent to the base with entry on the card: "? Appendicitis" or "N.Y.D.—Abdomen."

(2) The relapsing type (trench fever), with or without enlargement of the spleen.

Sundell and Nankivell (*loc. cit.*) say that diarrhœa and vomiting occur during the first 48 hours in many cases; they are rare later. None of their patients passed blood and mucus, as was the case with Hughes's Type C. Splenic enlargement, in their experience, does not occur. Some tenderness in both hypochondriac regions is an occasional complaint during the first ten days. It is not present later.

Tate and McLeod(16) found that, amongst 214 patients with short attacks of pyrexia, carefully observed and considered on clinical grounds to be examples of trench fever, 37, *i.e.*, 17%, had palpable spleens at some stage of the illness.

The American Commission (*loc. cit.*) states that enlargement of the spleen occurs in from 70% to 80% of the cases.

Gordon Ward(17), referring to the differential diagnosis between malaria and trench fever, says that enlargement of the spleen usual in both is more obvious in malaria.

In the present series of cases, vomiting or diarrhœa, or both, were by no means uncommon symptoms. In two cases (Nos. 21 and 26) the patients said they had passed blood; but this was not observed while they were in hospital.

Splenic enlargement was noted in 7 of the 30 cases. In Case No. 7 it was possibly the result of malaria.

Patient No. 24 had lived in the tropics for several years. No. 29 was suffering from a condition clinically indistinguishable from enteric fever. Patients Nos. 30 and 28, particularly the former, had attacks clinically suggestive of the typhoid group. For Cases Nos. 5 and 25 no cause, apart from the present illness, is apparent. Abdominal tenderness was frequently observed.

Circulatory and Respiratory Systems.

Hunt and Rankin (*loc. cit.*) state that the pulse is not slowed.

Patterson (*loc. cit.*) says the pulse-rate is not increased and is usually slowed to 50 or 60 beats a minute during convalescence.

Hunt and McNee (*loc. cit.*) say that routine examination of the heart and lungs has not revealed anything abnormal; but tachycardia often follows on during convalescence.

Sundell and Nankivell (*loc. cit.*) say that, during the first few days, the pulse-rate is increased in proportion to the height of the temperature. At the time of the first relapse it becomes relatively slow. It is no unusual thing to find a temperature of 40° C. with a pulse-rate of 90. Often, and especially in apyrexial periods, the pulse-rate falls to 60. In the later stages irritability of the heart developes, with great quickening after exertion.

Drummond(18) says the pulse is nearly always frequent during the bouts of fever; but there are exceptions.

In the present series the lungs showed no abnormal signs, except in Cases 8 and 12, where the pulmonary condition was probably accidental.

As the charts indicate, the pulse was, on the whole, slow compared with the temperature, *e.g.*, in Case 6, on November 9, when the temperature was 40° C., the pulse-rate was only 98. It was exceptional to detect any cardiac abnormalities. Occasionally an apical systolic murmur or slight arrythmia was noted, usually late in the disease. Towards convalescence tachycardia was frequent, and there is no doubt that a large percentage of the cases of so-called "D.A.H." (disordered action of the heart) follow on or are associated with trench fever.

Rash.

Hunt and Rankin (*loc. cit.*) found no rash, although they repeatedly looked for it.

Sundell and Nankivell (*loc. cit.*) state that rashes are uncommon.

The American Commission (*loc. cit.*) states that the appearance of small, erythematous spots occurs in from 70% to 80% of cases. They are observed particularly on the chest, back and abdomen.

Drummond (*loc. cit.*) noted an eruption in about 30% of relapsing cases and in about half that proportion of the irregular forms of trench fever, but he considers that this represents much less than the real total.

Gordon Ward (*loc. cit.*) states that a rash may be seen in trench fever.

In the present series of cases a rash was not observed. It is true it was not especially looked for, but had it been a conspicuous feature it would not have escaped attention in the routine examination. The only case in which an eruption of any kind was noted was Case 23, and this was regarded as probably being due to scabies.

Urine.

Hunt and McNee (*loc. cit.*), referring to their own patients, say that, even in cases with high fever, albuminuria has never been observed.

The American Commission (*loc. cit.*) state that the urine often shows a trace of albumin.

In the present series the urine was quite free from albumin in almost every case tested.

Nervous System.

In the present series the knee-jerks were always active. In Patient No. 10 there was slight superficial cutaneous hyperalgesia in both legs when tested with a wisp of cotton wool; in most cases, however, slight, but definite, pressure was necessary to produce pain. No other sensory disturbance was noted.

The muscles, particularly the calf muscles, were occasionally flabby and slightly wasted, but not more than would be accounted for by disuse.

Table I.

Case Number.	Date of Admission to 3rd Australian General Hospital.	Age in Years.	Nationality.	Onset.	Abdomen.	Head, Back and Limbs.	Laboratory Tests.	General.
1.	Dec. 30, 1917	26	Englishman	Onset December 3, 1917. Pain in legs. "slight feverishness."	No tenderness, spleen not palpable.	Headache, most marked over the eyes. Pains in legs and back, worse at night. Slight tenderness of shins and of lumbar calf and thigh muscles.	———	In apyrexial periods he felt comparatively well, except that his legs "nag." Has not been in tropics.
2.	Dec. 31, 1917	37	Englishman	Diarrhœa seven days, blood and mucus in small amounts (patient's statement). No vomiting.	Some tenderness, slight distension, muscles held firm, spleen not palpable.	Headache, pains in legs and back. During pyrexial periods shins tender, calf, lumbar and thigh muscles slightly tender.	———	Has had diarrhœa off and on for four months. Used to have diarrhœa in civil life. Has not been in tropics.
3.	Nov. 17, 1917	24	Englishman	Admitted to Field Ambulance on November 14, 1917, with diagnosis of constipation and auto-intoxication.	Soft, slight, generalized pain and tenness (? muscular). Liver not enlarged. Spleen not palpable.	Headache. Muscles of neck, lumbar region, legs and thighs painful and slightly tender.	Urine, no albumin.	Marked herpetic eruption of lips. With onset of pyrexia on November 27, 1917, there was an attack of vomiting.
4.	Dec. 20. 1917	20	Englishman	Pain in head and abdomen, sudden onset, vomiting.	Slight generalized tenderness, spleen not enlarged.	Pain in back. Lumbar and calf muscles tender.	———	Is in a Labour Company. Has never been "in the line." Has not been in tropics. No previous illnesses.
5.	Dec. 28, 1917	19	Canadian	Sudden onset, shivers, sweating, headache, pain in legs.	Soft, spleen just palpable.	Pain in back and legs below knees, mostly in shins. Calf muscles slightly tender, lumbar muscles more tender, thigh muscles not tender, shins tender.	———	Has never been in tropics.
6.	Nov. 2, 1917	—	Canadian	Ill four days. Headache and stiffness of neck. Vomiting first two days.	No tenderness.	Headache, pain and stiffness of muscles. Kernig's sign + (?).	November 3, 1917, lumbar puncture. Fluid slightly turbid, due to red cells, no leucocytes. Culture sterile.	*Herpes labialis;* vomited on November 2, 1917.
7.	Jan. 2, 1918	31	Australian	Sudden onset, December 26, 1917; shivers, stiff neck, temperature 39.4° C., vomiting and later diarrhœa.	Spleen palpable.	Headache severe, most marked at back of eyes. Pains in legs and back. Lumbar, calf and thigh muscles tender. Shins very tender.	Blood films January 3 and 7, 1918. No malarial parasites or spirochætes of relapsing fever.	Was in Egypt, Gallipoli, Malta. Says he contracted malaria at Malta.
8.	Oct. 31, 1917	—	British West Indian	Admitted with pain in left side of chest and cough, one week.	Soft, spleen not palpable, liver not enlarged.	Not mentioned in notes; apparently inconspicuous.	Fæces: ova of anchylostoma and trichiuris present. No cysts detected.	On admission, numerous rhonchi in left lung. These signs rapidly cleared up and on and after 6th, when the temperature was 39.4° C., the lungs were absolutely clear.

Table II.

Case No.	Date.	Total Leucocytes.	Percentage of Neutrophiles.	Total Neutrophiles.	Percentage of Eosinophiles.	Percentage of Basophiles.	Percentage of Lymphocytes.	Percentage of Large Mononuclears and Transitionals.	Total Non-Granulars.	Remarks.
1.	Jan. 4, 1918 (11 a.m.)	22,600	59	13,334	1	—	35	5	9,040	99.6° F. when blood was collected. Two basophiles seen.
2.	Jan. 10, 1918 (noon)	18,000	58	10,440	1	—	33	8	7,380	700 cells counted. Transitionals were a conspicuous feature.
3.	Nov. 27, 1917 (noon)	18,000	55	9,900	0.5	0.5	38	6	7,920	700 cells counted. Blood collected during pyrexia.
4.	Jan. 2, 1918 (noon)	16,800	63	10,584	1.5	1	30.5	4	5,796	400 cells counted.
5.	Jan. 6, 1918 (2 p.m.)	16,600	52	8,632	2.5	0.5	37	8	7,470	600 cells counted.
6.	Nov. 3, 1917	15,200	57	8,664	—	—	40	2	6,384	Count done by Sergeant Dawes during pyrexia.
7.	Jan. 10, 1918 (3 p.m.)	10,000	63.5	6,350	2	0.5	29	5	3,400	800 cells counted.
8.	Nov. 11, 1917	—	42	—	9	1	46	2	—	No parasites seen.

Herpes Labialis.

Herpes labialis was present in only two cases (Nos. 3 and 6).

Conjunctivitis.

Drummond (*loc. cit.*) describes conjunctivitis or "pink eye" in association with trench fever. The only case in the present series that showed conjunctivitis was No. 27 and at the time the eye condition was regarded as accidental.

Differential Diagnosis.

Cases with a relapsing type of fever are most likely to be confused with malaria, from which they are distinguished chiefly by the negative blood examinations and the long and irregular intervals between the relapses.

Cases with short initial fever are apt to be confused with influenza, from which they are distinguished mainly by the absence of catarrhal symptoms.

Cases with continuous fever are sometimes difficult to distinguish from the enteric group. Negative bacteriological and serological tests help in the diagnosis; but it must be admitted that these methods do not furnish an altogether satisfactory means of differentiation. However, the theory that trench fever is a modified form of typhoid and paratyphoid fevers has been disproved by the extensive investigations of McNee and his fellow-workers, the American Commission and numerous other observers. In the present series, Case 27 was the only one considered on clinical grounds to be sufficiently suspicious of enteric to warrant his transfer to a hospital set aside for patients with typhoid fever and dysentery.

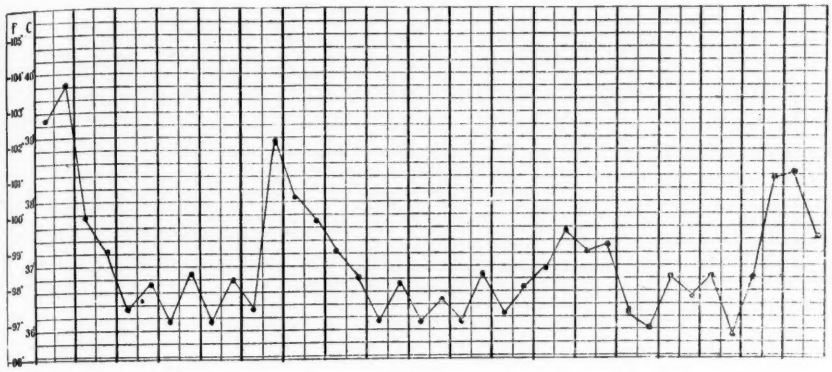
Tables I. and II.

All the cases show pyrexia of a relapsing type. The interval between the relapses varies, even in the same case. The most common interval is five days. The summit of a relapse is sometimes reached in the evening, sometimes in the morning. Even in the same case there is no constancy. In the chart of Case 4 it looks as if there is a five-day periodicity, alternate relapses being of different height, the second one being missed altogether.

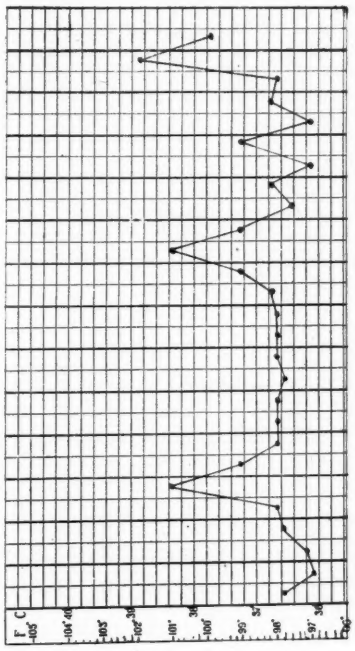
Patient No. 6, on admission to hospital, looked like a man with typical cerebro-spinal meningitis.

Patient No. 7 seemed to have quite recovered from his bronchitis when the relapsing pyrexia made itself manifest. The two conditions seem to have been quite distinct.

In all the cases the leucocyte count was over 10,000, both polymorpho-nuclear and non-granular cells being present in more than normal numbers. The increase of the latter is relatively greater than that of the former.



Case I.



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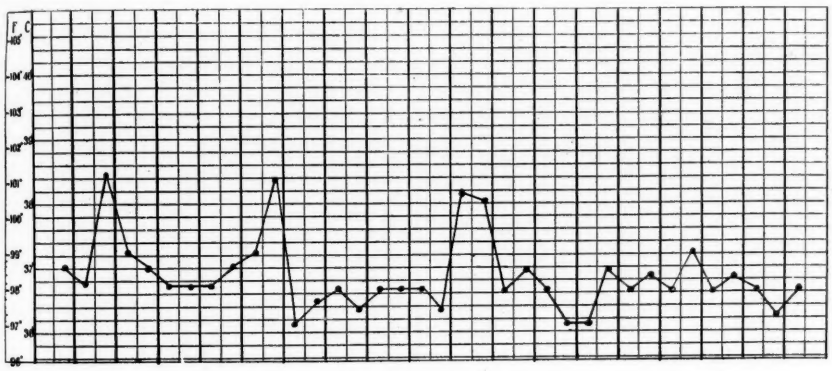
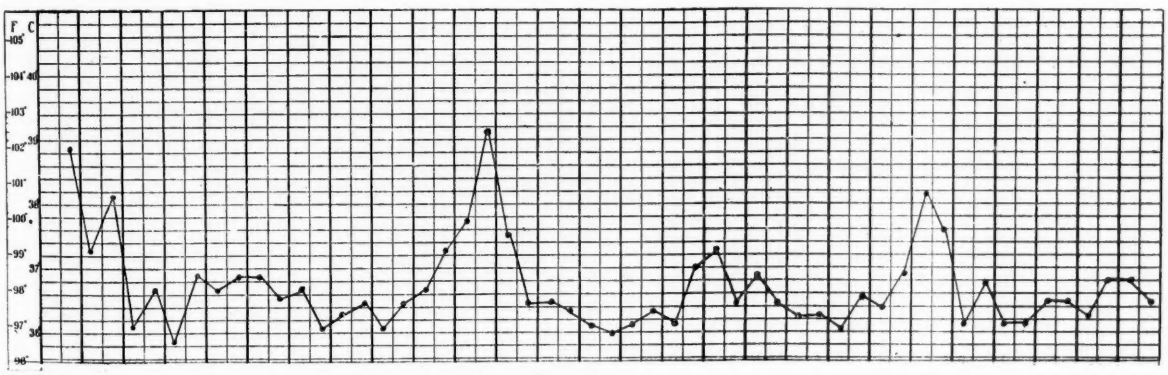


Case III.



Case IV.

(To be Continued.)

Reports of Cases.

NOTES ON THREE CASES OF FUNCTIONAL DISEASE OF THE NERVOUS SYSTEM SEEN DURING THE VOYAGE FROM ENGLAND TO AUSTRALIA.

By **A. C. Fraser, M.A., M.B., B.S. (Melb.),**
Major, Australian Army Medical Corps; Senior Medical Officer, His Majesty's Australian Transport, "Kanowna."

1. Hysterical Contracture of the Hand.

Pte D., an Army Medical Corps battalion detail, was first seen on September 10, 1919. No notes of his case were available, but he stated that over three months previously the palm of his right hand had been perforated by a piece of glass between the third and fourth metacarpal bones. An artery was cut and had to be tied. The patient says that there was no injury to bone, tendon or nerve. Apparently the wound became septic, for there were several subsequent (secondary) hæmorrhages.

For two months the hand had been on a splint which kept the fingers straight and, after that, had been bandaged so that only slight flexion of the fingers was possible. The wounds had been healed for six weeks before the patient was seen.

Since the splint had been removed, he had only been able to move the inter-phalangeal joints slightly, the metacarpo-phalangeal joints not at all. These limitations existed equally in all the fingers. He had not been able to make a fist since the injury.

On examination, two healed scars were seen, one in mid-palm between the third and fourth metacarpal bones, the other situated dorsally between the knuckles of the middle and ring fingers. The hand was held with all the fingers slightly flexed at the inter-phalangeal joints. The fingers could be fully extended, but the metacarpo-phalangeal joints could not be flexed at all and with the utmost voluntary flexion, the middle phalanges still formed with the proximal an angle of 120°; that is, the patient was quite unable to make a fist. The movements of the thumb, however, were unaffected.

There was no anæsthesia.

The whole of the hand up to the level of the wrist was of a mottled, cyanosed colour. There was a hypersecretion of sweat over the same area.

Diagnosis and Pathology.—Two points in the case are at once obvious and suggest the hysterical nature of the contracture. First, the original injury was insufficient to cause a contracture of all four fingers, even if there was tendon or nerve involvement. Secondly, a paralysis which affects the four digital flexors, but not the thumb, and which is unaccompanied by anæsthesia, does not correspond to any known nerve lesion.

Flexion was at first prevented entirely by the splint and later to some extent by the bandage. Further, pain and the fear of fresh hæmorrhages would strongly suggest, and especially to an Army Medical Corps orderly, that movement was inadvisable. Thus auto-suggestion (fear of pain and of fresh hæmorrhage) and hetero-suggestion (fixation treatment) combined to produce a hysterical contracture.

The nature and the pathogenesis of the vasomotor and secretory changes and their relation to hysterical contractures form the subject of a discussion that is still being actively carried on amongst English and French neurologists. Briefly, the opposing opinions are as follows:—

Babinski points out that these changes are not always associated with such contractures and he, therefore, distinguishes hysterical or functional contractures, *i.e.*, those unaccompanied by vasomotor and similar phenomena from "reflex nervous disorders," in which he holds there is an organic basis and in which vasomotor secretory or trophic changes are always present. On the other hand, English and some French neurologists hold that these changes are merely the result of disuse and that they disappear when function is restored.

Treatment was by psycho-therapy. It was explained to the patient how the condition had been brought about, that there was no real damage to his hand and that all that was now preventing him making a fist was the contraction of the extensor tendons.

His attention was directed exclusively to these and he was induced to relax them. This was combined with passive flexion. Almost at once he found that when his fist was passively closed, he could hold it in that position. It was pointed out to him that if he could do this, the nerves and muscles must all be intact and that he could also bring his hand into that position. Within half an hour he was able to make a fist and to grasp the handle of a walking stick. He was given a walking stick to use continually and put on suitable exercises.

September 12, 1919.—He was able to make quite a good fist and to grasp articles much more firmly.

September 23, 1919.—Movements of the hand were practically normal; he made a normal fist, except that the ring finger was not quite fully flexed; he had a strong grip.

The colour of the hand was also improved; there was no mottling and very little cyanosis; the secretion of sweat was diminished.

October 15, 1919.—The hand was normal, except for a slight dampness from sweat.

2. Psychasthenia, Hysterical Tremor and Fits (Shell Shock), Complicated by Angio-Neurotic Œdema.

L.-Cpl. W., aged 26 years, has had three years' service. He says that while in camp in Adelaide before going overseas, he had an attack of cerebro-spinal meningitis and a second attack at Salisbury, England, in the winter of 1916.

Inquiry into his family history for any neuropathic tendency was without result.

In June, 1917, the patient was one of a party of four, who were attacking a machine gun position at Messines, when a shell burst among the party, killing two, wounding one and blowing him up. He was unconscious for (?) some days and was "very shaky" for two months afterwards. He then recovered a good deal and was on duty in England till January, 1919.

He has had three brothers killed and he is the only surviving son. Since January, 1919, he has got shaky again; this he thinks is due to his having to face the unpleasant ordeal of going home and being asked for battlefield details by his parents. He was not worried by the memory of battle scenes, he did not mind reading or talking about the war, but he could not bring himself to face the task of giving to his parents the details he thinks they will want.

His medical history sheet shows the following entry, under date March 3, 1919:—

> "N.Y.D."—Attacks of tonic spasms and opisthotonos with cyanosis; at times the tonic spasms are not universal to all muscles. At times he catches hold of the top of the bed before starting opisthotonos. Incontinence of urine, which may be due to straining. No temperature. Conscious, but dazed at times.

When seen on September 2, 1919, he was complaining of severe tremors of every part of the body at different times during the day. The tremors disappeared during sleep. There was no tremor of speech.

At the time of examination there was a continuous, severe, coarse tremor of the body from the waist upwards of the whole of the upper limbs and the head. The muscles of the shoulder girdle and neck were particularly affected. The patient thought the tremor was worse since embarkation on August 28, 1919, because the prospect of his home coming was now definitely growing nearer. He has had occasional dreams and headache, but no insomnia. When he wakes from sleep, he does so with a violent start and the tremor at once recommences.

Treatment was commenced by making an analysis of his lack of mental decision clear to the patient. It was insisted on repeatedly that he must not shrink from the thought of meeting his parents. He must face it and come to a decision as to what he would say to them and what he would refrain from telling of battlefield details. This was gone over in detail until the patient got a clear idea of the line he would take. In other words, he was persuaded to come to a solution of the mental conflict that was troubling him.

During this interview his tremor markedly increased, so that he could hardly sit on a chair. He was then hypnotized and suggestion given that he would now be able to settle his mental difficulties and that thereafter his tremor would disappear.

September 4, 1919.—The patient had been much better since the first interview, more cheerful and confident of ultimate recovery; his tremor was less. The same ground was gone over again as before. He again become somewhat more shaky during the interview, but much less so than on the first occasion. He was again hypnotized and the suggestion repeated, but it was further suggested that he would wake from the hypnotic state free from tremor and remain so. He accordingly woke without tremor for the first time for eight months. Presently, however, an intermittent, slight tremor returned.

September 5, 1919.—Last night the patient walked in his sleep and was found sitting on the ship's rail unsupported. The orderly who found him, was a small man; the violence of the start with which the patient awoke when taken off the rail, nearly carried both him and the orderly overboard. It was ascertained that the patient used to walk in his sleep in hospital in England, but never believed he did, as he never had to be awakened. At the time he was much frightened, but in the morning he was quite confident again. By lying down and allowing his body to relax, he was able without hypnotism to get quite rid of the slight tremor present. He was much more settled in his mind.

During the next week the patient slept heavily a great deal of the time. The tremor reappeared at times, but he could always get rid of it by his own effort and attention. He shaved himself with an open razor for the first time since January and could read with a steady hand and an almost steady head.

September 13, 1919.—His head still jerked involuntarily. This was found to be due to the left sterno-mastoid, which was spastic at the sternal end and twitching. By persuasion and massage he was induced to relax it entirely; the head movement then ceased.

On September 15, 1919, the thenar eminence and base of the thumb of the left hand became suddenly swollen without pain or itching. There was slight redness. The swelling pitted on pressure. A foment was applied.

On September 16, 1919, this swelling had diminished, but a similar swelling appeared over the inner surface of the left knee. There was no pain, no itching, no redness and no effusion into the joint. By the evening of this day the œdema had subsided entirely; the left hand and wrist were still slightly swollen. In the left foot, however, a fresh area of œdema appeared over both dorsum and sole. It had a well-defined margin and was so intense that all outline of the foot was obliterated. Simultaenously, patches of œdema appeared on the lateral side of both hips, immediately below the crests of the ilia, quite definite in outline. The right forearm also became generally swollen, but the outline of the œdema was not so well marked here as elsewhere.

A diagnosis of angio-neurotic œdema was made. There were no general constitutional symptoms associated with the œdema, no gastro-intestinal symptoms, no swelling of the tongue, lips or pharynx.

September 17, 1919.—Both hips were practically normal in appearance again, the recovery of the left foot and of the right forearm and left wrist being gradual.

September 20, 1919.—Last evening the patient had a sudden violent hysterical fit with opisthotonos in extreme degree, It lasted ten minutes. Two hours later he had a second attack, in which, after twitching and short tonic spasms, which lasted for a few minutes, he again became opisthotonic and exhibited the classical picture of *arc de cercle*. This lasted a minute or two; thereafter the patient passed into a heavy sleep, which continued all night.

On the 20th he seemed better. All the patches of œdema had quite disappeared, but there was still some tremor of the head and shoulders. The patient was put on systematic rhythmical exercises of the neck, shoulder girdle and back muscles.

On each occasion the exercises were persisted in, with short intervals of rest, until the tremor disappeared.

October 20, 1919.—The patient had continued to practice muscle exercises twice daily under the orthopædic sergeant. For the past four weeks there had been no reappearance of the tremor, fits or œdema. Physically the patient was well and strong and he was confident that his tremor would not return. Mentally he was still slow, as at the commencement of the treatment, and his memory was very poor. This he attributed to the two attacks of meningitis, before which he was much brighter. He disembarked to-day and the prospect of meeting his people caused him no anxiety or fear. He proposed to take up wheat farming.

Pathogenesis.—This patient, suffering from typical shell shock, presents a combination of hysteria and psychasthenia.

The tremor was in the first place the effect of emotion, of fear of the ordeal associated with his home going and the tremor was hysterically perpetuated.

Such a tremor is usually associated with muscular spasticity, as in this case, and occasionally is replaced by the more violent contractions of an hysterical fit. Careful explanation of the condition to the patient and voluntary efforts by him at relaxation of the affected muscles, combined with rhythmic exercises, persisted in, sufficed to overcome the condition. The essential in treatment is the intelligent voluntary effort by the patient.

Hypnotic suggestion helps in severe cases by giving a start, but it is always better that the patient should understand thoroughly all that is being done.

The tremor and fits, therefore, are examples of hysteria, a definition of which is "a condition in which symptoms are present, which have been produced by suggestion and are curable by psycho-therapy."

Associated with these hysterical symptoms, was a certain degree of psychasthenia. The patient had two instincts, one a wish to return to his people, the other the fear of the ordeal associated with the meeting. Between these a more or less conscious conflict was going on and when this was solved, the patient secured peace of mind and his tremor, which originally at least may be looked on as the expression of his emotion and dread, rapidly disappeared.

3. Hysterical Amblyopia.

Cpl. L. received gun-shot wounds in the left frontal region and the face on October 14, 1917. Three operations were performed on the skull and five plastic operations on the face. His head was bandaged for five months, the bandages being usually arranged so that a very thin chink only was left through which he could see with the left eye. The result was that for the greater part of this time he kept the left eye closed.

In June, 1918, he was sent to Weymouth. He then had chronic headache, like neuralgia, in the left frontal region and towards the left eye. The vision of the left eye was defective, so that objects were blurred and reading matter appeared to be moving.

In August, 1918, he had influenza, when his headache was worse. Between then and embarkation in August, 1919, he made but slow progress, having attacks of headache of such severity that he threatened to take his life.

When seen in the tropics soon after embarkation, he was again suffering from intense headache and threatened to jump overboard. He was unable to read for more than half an hour at a time, owing partly to lack of concentration and partly to bad sight of the left eye. Owing to the patient's headache and depression, further examination of the eye was overlooked until September 20, 1919, by which time the weather was cooler and his headache much less severe.

On that date he again complained that with the left eye all objects were blurred, printed lines moved up and down and that he could not distinguish colours correctly.

On examination, the pupils were found to be equal and to react to light and accommodation. There were no opacities. With the right eye printed letters were easily visible and readable, but the same letters were too blurred to be read at all with the left eye. No special facilities were available for examining the eye or testing the vision.

Investigation of the fields of vision revealed the fact that that of the left eye was much contracted, that a small piece of white paper in the end of a pen was seen over a field, whose radius was only 40% that of the field of the patient's right eye or the observer's eye. No indication was given to the patient of the object of the examination, nor of the findings which might be expected.

Colour vision was normal, except that blue was described as greyish black.

Diagnosis.—It might be expected that such an injury as this patient had received would cause some serious damage to the eyes with consequent defects of vision.

No examination of the fundus was made, but it was noted that there were no evidences of injury to the cornea. The conditions of treatment of the wounds, however, had been of a kind calculated to produce an hysterical amblyopia. The left eye was practically kept closed for five months from the date of injury and this was considered to be likely to result in the patient ceasing to look with his left eye. He would expect to receive images in his brain from the right eye only. Consequently when the bandages were discarded and impressions did fall on the left retina, no attention was paid to them. A similar condition exists in a normal person who may be looking at an object or a scene, but whose thoughts are otherwise occupied. The rays from the object fall on his retina, yet he does not see the object.

The hysterical nature of the amblyopia in this case was conclusively proved by the result of treatment by psychotherapy.

Treatment.—It was carefully explained to the patient that his partial blindness in the left eye was merely an effect of long disuse; that because his left eye had been so long closed, he had ceased to pay attention to the images formed in it and had ceased to look with it. He was assured that if he would only make an effort and look, he would at once be able to see clearly.

The patient was keen and easily persuaded to direct his attention to the left eye exclusively. At once the pen and white paper used in testing the fields of vision were seen clearly, though previously blurred. The field of vision of the left eye was then again taken out, the patient being urged to try hard to see over a greater field. Complete success resulted at once and both fields were equal in size.

Printed letters were next placed before him and were seen clearly and read equally easily with either eye, both large and small type. Colour vision was also rapidly corrected.

At the time of disembarkation vision had been normal for over four weeks.

Reviews.

A MANUAL OF GYNÆCOLOGY.

The author in his preface states that this volume[1] is an attempt to present the subject as he has been teaching it during the last twenty years and to give the student a reasonably concise and accurate outline of the subject, without any attempt at lavish illustration. In several sections, notably those on the injuries of child-birth and their consequences, on diseases of the breast and on hæmorrhages, he has considered the subject from the point of view both of the obstetrician and the gynæcologist, as the two are so intimately connected. In discussing operative procedures, he gives one method in full and but briefly mentions others.

There are several recommendations to which we take exception. He is rather too fond of the use of chromic gut in operations, where ordinary plain gut is all that is necessary. In excising the Fallopian tube in infected cases he makes use of a "massed" ligature, which he admits is prone to slip off and give rise to hæmorrhage. We do not agree that curetting of the uterus is advisable as a preliminary in all cases of abdominal operations for pelvic inflammatory disease; neither do we advise draining through the lower end of the abdominal wound in cases where it has been necessary to remove infected pus tubes. In the operative treatment of prolapse of the uterus the author recommends amputation of the cervix in all cases. This is unwarranted, as in most cases the congestion and hypertrophy of the cervix disappear when the uterus is kept up in place. Further, in cases of prolapse he recommends the interposition operation of Watkins-Freund. Amongst the out-of-the-ordinary features of the book is the recommendation to omit primary suture of all perineal tears due to child-birth and to do the repair work seven days post-partum. The author also apparently believes that axis-traction forceps are dangerous. We are glad to see that he recommends Alexander's operation whenever possible in cases of retro-displacement of the uterus. Another good feature is his insistence of the dangers of curetting the uterus in cases of septic and gonorrhœal endometritis. Taken as a whole, the book is easily read and there are few misprints.

[1] A Manual of Gynecology, by John Cooke Hirst, M.D.; 1918. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; Crown 8vo., pp. 466, with 175 illustrations. Price, 12s. 6d..

Dr. W. Kent Hughes has been elected a City Councillor for the Latrobe Ward (City of Melbourne). He secured 969 votes out of a total of 1,730, thus beating the former Councillor, Mr. J. Shillabeer, by the substantial majority of 208 votes. We congratulate Dr. Kent Hughes and the returned soldiers on this result.

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

The Trustees acknowledge with thanks the receipt of the following donations and promises to the above-named Fund:

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Total to November 18, 1919, £9.555 1s. 7d.

PROHIBITED IMPORTS.

The following announcement appears as a proclamation in the *Commonwealth of Australia Gazette*, No. 126, of November 3, 1919:—

Whereas by the *Customs Act, 1901-1916*, it is enacted that all goods the importation of which may be prohibited by Proclamation are prohibited imports:

And whereas it is desirable to prohibit the importation of the goods enumerated hereunder, except under licence from the Minister of State for Trade and Customs:

Now therefore I, Sir Ronald Craufurd Munro Ferguson, the Governor-General aforesaid, acting with the advice of the Federal Executive Council, do hereby prohibit the importation into the Commonwealth of Australia of the following goods, except under licence from the Minister of State for Trade and Customs:—

Absolute alcohol, amylic alcohol, collodion, ether, sulphuric, anæsthetic ethers, . . . cocoa and chocolate potable, rennet, . . . plaster of Paris, carbolic acid, cresylic acid, . . . carbolic disinfectants, sodium hyposulphite, . . . ethyl chloride, sodium sulphate (Glauber's salts), bacteriological products and sera, . . .

The date of the proclamation is November 1, 1919.

The annual dinner of the University of Sydney Medical Society will be held at the Burlington Café, George Street, Sydney, on Friday, November 21, 1919, at 7 p.m.. Tickets may be obtained from the Honorary Secretary, Dr. M. R. Flynn, Royal Prince Alfred Hospital.

The Medical Journal of Australia.

SATURDAY, NOVEMBER 22, 1919.

The Basis of Medical Education.

In the report of the Pathological Club of Edinburgh on medical education it was urged that the preliminary sciences on which the study of medicine is properly based, should be taught continuously throughout the curriculum in order that economy of effort and time might be attained. The primary sciences on which medical as well as all other sciences are founded, are chemistry, physics and biology. Biology, however, depends on physical and chemical phenomena and consequently it may be stated that medical knowledge is built up on a chemical and physical sub-structure. Anatomy claims separate and special treatment, inasmuch as a great deal of the material has to be learned as indepedent facts to be committed to memory. Under the present system chemistry is handled as if it were a subject outside the medical course and, as a result, the medical student receives a very inadequate preliminary introduction into the most important of all sciences and merely renews his acquaintance with chemistry in the physiological laboratory and possibly at a later date in the medical clinics in connexion with certain diseases of metabolism. The study is conducted in such a manner that the student is expected to gain a grasp of physiological and pathological processes without having mastered the elementary science on which physiological and pathological knowledge is based. In a reconstructed scheme the primary essential is that the training in chemistry must be placed from the first in the hands of a competent medical chemist, who is in a position to gauge the requirements of the medical student and to fashion the ground work to bear the weight to be imposed on it during the whole course of study. The professor of medical chemistry should have the complete responsibility of equipping the medical student with a sufficent knowledge of inorganic and organic chemistry, of bio-chemistry, of physiological and pathological chemistry, of the chemistry of foods, drugs and poisons and of the chemistry of bacteria and their products. It is impossible to understand the processes of digestion, respiration, metabolism, excretion, infection, immunity and so on, or disturbances of these processes, without an extensive acquaintance with the constituent substances of the body and with the substances that can gain an entrance into the body and with the reactions that take place between one and another of these substances. Nothing could be more irrational than to require an individual to endeavour to deal with a disease process like uræmia or gastric ulcer, without a knowledge of the chemistry of the organs involved. A knowledge of the gaseous interchange in normal respiration is essential before we can understand the signs and symptoms of pulmonary and many circulatory diseases. Almost every branch of medicine furnishes obvious examples of this thesis, that a thorough training in chemistry is essential for a successful medical practitioner.

The physical basis of physiological function and disease processes is scarcely less important than the chemical. A medical practitioner who fails to grasp the conditions under which hæmoglobin is held in the cytoplasm of the red blood corpuscle, or who does not recognize the physical laws which govern the action of the heart in the maintenance of the circulation, cannot hope to understand the changed conditions which endanger his patient's life in certain blood diseases or in diseases of the cardio-vascular system. It is no longer permissible to treat diseases empirically with drugs that appear to do good. Treatment must be based on accurate knowledge. For these reasons physics must be taught to the medical student by a medical man who is an expert physicist and who recognizes the extent of physical knowledge required to make an efficient medical practitioner.

Under the new order of things two expert medical practitioners will be charged with the responsibility of directing the education of the student in chemistry and physics from the day he enters the medical school until he leaves it to engage in practice. This teaching will be adjusted in such a manner that unnecessary details are excluded from the course. The sciences will be taught as applied sciences as soon as

a sufficient foundation has been laid to render this possible. As the student advances in his course, he will be required to apply his previously acquired knowledge to fresh problems and to extend his acquaintance with the principles on which all processes of the body, both in health and in disease, are based. Chemistry and physics must be insinuated into the realms of medicine, preventive medicine, surgery and obstetrics, pathology, bacteriology and parasitology and the several specialties. The excuse for ignorance of these sciences that they were either not taught or inadequately taught in the medical school will not hold good in the future. The need for thorough training in these sciences is now recognized and it must be provided. Without this reform progress in medicine becomes impossible.

CREATING A MONOPOLY.

The publication a few days ago of a long list of goods that may not be imported into Australia from other parts of the British Empire or from foreign countries has produced consternation among many commercial men in our chief cities. It is held in respect to the majority of these commodities that the result will be that the people of Australia will have to pay more for the goods, that the quality in some instances will be inferior to that of the goods hitherto imported and that an actual shortage of supplies may have to be met. Merchants who have served the people by importing goods, will suffer serious loss, while the purchasers of the Australian-made equivalents will probably reap no compensatory benefit. Moreover, the fear has been expressed that licences may be granted to individual firms to the detriment of others of equally good repute. These are matters of immediate concern to the people of Australia as a whole, but none of the arguments can be put forward with special emphasis by the medical profession. There is, however, one aspect of this matter which concerns the practice of medicine and the health of the community. In another column we publish a number of commodities, mentioned in the list, that are employed in the course of medical practice. Some of these substances, such as anæsthetic ether, need not concern us at the present time, in view of the fact that Australian manufacturers have for many years supplied the needs of the medical profession. It may be necessary at a later date to deal with other goods mentioned in the list, such as carbolic acid, sodium hyposulphite and absolute alcohol. For the present the attention of the medical profession should be drawn to the prohibition of the importation of bacteriological products and sera.

Not long ago the Quarantine Service of the Department of Trade and Customs earned the gratitude of the medical profession and of the people of the Commonwealth by establishing an excellent institution for the preparation of sera and vaccines. The equipment of the laboratories, the thoroughness of the organization of the institution, the capability of the Director and the meticulous care with which he carried out his important duties, commanded the respect of all competent to judge of these things. There is every reason to anticipate that the undertaking will prove a success, both from the point of view of the prevention and cure of diseases and from the point of view of an Australian industry. *The Medical Journal of Australia* has applauded the efforts of those in control of this institution and has consistently advocated that a full measure of support be given it. It must be remembered that the products which are prepared at the Commonwealth Serum Laboratories are numerous. These products have been placed on the market in competition with similar products of commercial firms and of scientific institutes in other countries. The members of the medical profession have had an opportunity for a short time of comparing the prophylactic or therapeutic value of the different brands of sera. We feel convinced that the Director of the Commonwealth Serum Laboratories would be the last man in the world to expect his colleagues to use the products of his institution unless they were convinced that these products were as good as, if not better than, those of other laboratories. The action of the Federal Government in removing this competition places him and his institution into an utterly false position. It is unfair to this undertaking to make it impossible to judge the relative value of the products offered for sale. Firms like Messrs. Parke, Davis & Company, Messrs. Burroughs Wellcome & Company and Messrs. H. K.

Mulford Company, and institutions like the Lister Institute for Preventive Medicine enjoy the reputation of producing sera of established excellence. These firms and institutions have performed such valuable services to the world by enabling the medical profession to employ prophylactic and therapeutic sera of ascertained potency, that the exclusion of their preparations by a Government that indulges in a commercial enterprise in competition with them, is quite intolerable. It is impossible for one laboratory to produce the best bacteriological products in the world. While many may claim general excellence, each one will probably be renowned for a particular preparation. In other words it is extremely unlikely that all the sera prepared by the Commonwealth Serum Laboratories are the best in the world. In the name of humanity we claim that the medical profession should be able to procure the best preparations for the difficult tasks of preventing and curing infective diseases. The monopoly that the Government is endeavouring to create for its Serum Laboratories is consequently detrimental to the public health, is damaging to the reputation of the institution itself by rendering it impossible for the Director to demonstrate the relative value of his preparations and is a clumsy expedient to enhance the commercial prosperity of a young industry. The Commonwealth Serum Laboratories need have no fear of open competition. It would be reasonable to impose an adequite duty on imported bacteriological products and sera. As long as the goods are offered for sale under reasonable conditions, the medical profession will be prepared to give preference to our own industry. But when the sale is restricted in this manner, the confidence of the medical profession must sooner or later be forfeited.

A STARVING NATION.

History provides numerous instances of famine conditions affecting relatively large communities for considerable periods of time. When famines occur in peace time, relief measures are usually introduced either by the responsible government of the country concerned, or by neighbouring peoples. Under conditions of war the problem of maintaining the nutrition of the population has at times become so urgent that the military situation has been governed by it. When a city is besieged, its fall is usually timed by the exhaustion of the food supply. The results of limited nutrition have been studied from a physiological point of view in individuals and the information gathered from these investigations has served as a basis for the economic regulation of diet when large numbers of people are concerned. It has, however, not been possible in the past to judge the effect of a starvation diet involving a whole nation. During the earlier stages of the great war much inexact writing appeared in lay and medical periodicals concerning the effect of the shortage of the food supply in Europe and its probable effect on the inhabitants of the combatant countries. The daily newspapers predicted in 1915 an early collapse of the central European powers on account of the allegedly inevitable failure to produce a sufficient amount of food. Like many other of the newspaper reports referring to the economic condition of the enemy countries, the guesses were very wide of the mark, not because the situation was actually more favourable than was supposed, but because the physiological problem was not properly understood. At a later date, when the allies themselves were compelled to introduce measures for the conservation of a diminishing food supply, rather more caution was exercised in the estimate of the length of time the enemy would be able to feed himself. It is probable that the information on which these estimates were made, was based on totally insufficient data. We are now in a position to form an opinion of the effect of the reduction of diet in Germany up to the end of 1917 and to form some conception of the ultimate result of the starvation of a nation of 60,000,000 persons from a report presented by the eminent physiologist, Professor Rubner, to the *Reichsgesundheitsrat* (Imperial Council of Health).[1] It appears that rationing began in Germany at Easter time, 1916, with a reduction of the meat allowance. In the autumn of the same year the milk supply was limited and, shortly after, all articles of diet were reduced.

Professor Rubner recognized that the caloric value of the majority of articles of diet was not maintained at the pre-war level. In planning for the winter of 1916-1917, the responsible department set up a ration for the civilian population containing 1,985 calories per person. The diet consisted of 710 grammes of potatoes, 271 grammes of bread, 70 grammes of meat and so on. When the winter arrived, the prescribed food-stuffs were not available and the average diet per person per day contained but 1,344 calories. The amount of potatoes and meat obtainable was half the prescribed amount, while eggs, sugar, butter and margarine were becoming increasingly scarce.

In order to meet the shortage a form of "swede" turnip (*Steckrüben*) was substituted for potato. In June, 1917, the supply of potatoes became exhausted and the diet was modified by the addition of more bread and meat. Over 64% of the calories were derived from bread.

It is necessary to recall certain facts to judge the full significance of this form of dietary. A man at complete rest loses a certain amount of heat which has to be replaced by the oxidation of food or of stored up fat, protein or carbohydrate. This basal

[1] *The Military Surgeon*, Vol. XLV., Numbers 3 and 4, September and October, 1919.

metabolism is measured by the number of calories necessary to maintain the body weight at absolute rest at a constant level. When work is performed an additional supply of fuel is required to make good the loss. The food providing the energy for work, even under the most favourable circumstances, cannot be fully utilized. The caloric equivalent of work cannot exceed 50% of the caloric value of the additional food supplied and is often as low as 10%. The basal metabolism of a person weighing 60 kilograms is said to be 1,860 calories. If a man of this weight endeavours to perform work representing 1,000 calories, his needs will be 2,860 calories. This quantity of calories will not become available, as a rule, unless he is supplied with a diet containing at least 4,000 calories. Professor Rubner, recognizing the necessity of reducing the margin of safety to the lowest level, estimates that the average person, weighing 45 kilograms, consumes 2,569 calories and 91 grammes of protein. But it is obvious that this calculation is highly misleading, since the requirements of a man weighing 75 kilograms and performing very hard work, those of a woman weighing 45 kilograms and performing a moderate amount of work, and those of an infant weighing 5 kilograms and doing no work at all, cannot be averaged. But since the ration prescribed was actually based on a suppositious average, determined not on the physiological needs of the individuals, but on the available amount of food, he is forced to utilize the figures. The individual in the winter of 1917 was offered 1,344 calories and 30 grammes of protein, an amount wholly insufficient to sustain him. It is, however, possible to alter the basal metabolism of an individual by limiting his intake and requiring him to feed on his own tissues for a time. Experimentally it has been ascertained that an animal in a state of good nutrition can be starved to half its weight and the body can then be maintained at the new level permanently. An adult, however, cannot escape death from starvation if he is limited to 1,000 calories and 30 grammes of protein a day for more than a short period.

We are informed that the ration was supplemented to a certain, but unequal, extent by various articles. It is impossible to ascertain the value of these additions. Professor Rubner points out that the city dwellers were less well-off than the country folk in this respect. Munition workers and others performing tasks of national importance were allowed extra rations. Every worker undertaking very hard work could claim extra food. The claim was much abused. Professor Rubner opposes all systems of rationing, because of the impossibility of an equable distribution of the available food and because of the facility with which the inequality of distribution can be increased. The working classes obtained more than their share of additional articles of diet, while the persons of the middle class, and especially those performing heavy intellectual work of national importance were restricted to the minimum diet. These people could not afford to buy expensive supplemental rations. In the next place, he points out that the digestibility of the articles of diet supplied was materially reduced. A diet composed largely of fibrous turnips and bread adulterated in various ways led to many disturbances of digestion. This in itself lessened the nutrient value of the diet below its ostensible level. Inquiries elicited the fact that the weight of the civil population, excluding munition workers and others employed by the government for war purposes, was reduced by 9% all round. While it has been shown that the enfeebling effect of the insufficient ration was less apparent in women than in men and made itself felt at a later date, disturbances of menstruation and changes in the sexual functions were widely reported in 1917. The great decline in the birth rate was in part due to this fact. Infants born during this period were not obviously impaired in physical qualities nor did young children lose weight. This is not surprising, since the ration was probably ample for a child up to the age of three years. It is true that its quality predisposed to certain pathological conditions. Tuberculosis, anæmia, parasitic skin affections and gastro-intestinal disturbances were definitely increased. The general health was impaired to a not inconsiderable extent, at all events, among people engaged in mental work and those earning fixed small salaries. There was a distinct decrease in the working capacity.

Since that date (December 1917) the food difficulty has continued in Germany. Reports have been received within recent times from British officers who have visited Berlin and other German cities, to the effect that strict rationing on an insufficient diet, varied it is true from that with which Professor Rubner dealt, has continued even since the armistice. The scarcity and consequent high price of foodstuffs like meat, butter and eggs must have impaired the recuperative power of this large nation. It is impossible to arrive at any other conclusion from Professor Rubner's report than the one he adopts. Rationing when the food supply is insufficient to cover the needs of a nation is bound to lead to an unfair distribution of the available material. Men suffer more than women do under such a system, while the grasping, selfish worker who claims more than his share, is placed in a relatively good position. The loyalist who suffers in silence, is soon rendered useless for all important work. The continuation of these conditions among a community of approximately 60,000,000 individuals must leave traces that will not be obliterated for two or three generations.

INFLUENZA PROCLAMATIONS IN NEW SOUTH WALES

It will be remembered that on January 28, 1919, a proclamation was issued in the State of New South Wales, declaring the State an infected area in view of the fact that an infective disease named influenza had broken out. Shortly after a series of further proclamations were issued, imposing certain restrictions on persons, such as a limitation of movement into the State, the wearing of a mask to cover the nose and mouth, the closure of libraries, schools, churches, theatres, picture theatres, billiard rooms and licensed hotels. In the proclamation of February 3, 1919, reference was made to the provisions of sub-section (2) of Section 57 of the *Liquor Act, 1912*, while regulations were prescribed on February 7,

1919, under the *Public Health Act, 1902* and the *Quarantine Act (New South Wales), 1897*. During the course of the epidemic many persons were required to appear before stipendiary magistrates for breaches of the orders and regulations. The magistrates convicted in numerous instances, although the legality of the proclamations and orders was frequently challenged. In the month of February the licensee of the Royal Hotel at Enfield was fined £10 for having failed to comply with the order of the Governor in pursuance of the *Quarantine Act, 1897*, in that he did not close his premises or keep them closed for the consumption of liquor. The defendant appealed to the Quarter Sessions. The matter was not determined at the Quarter Sessions, but was removed to the Supreme Court. In May the Crown obtained a rule nisi calling upon the defendant to show cause why his appeal to the Quarter Sessions should not be dismissed and the conviction confirmed. The matter was then considered by the Full Court, but in view of the fact that a constitutional question was raised, it passed automatically to the High Court.

On November 14, 1919, the case was argued before the High Court. Mr. Broomfield, K.C., for the Attorney-General, argued that the order was a good order and that the conviction was right. The proclamation was made in pursuance of Section 33 or the *Quarantine Act, 1897*. Mr. Maughan, for the defendant, contended, among other things, that the *Quarantine Act* was an act relating to vessels and persons having communication with vessels. He also claimed the right of arguing on other grounds. The Chief Justice, however, agreed that the section under which the order was made applied only to vessels and to persons having communication with vessels. It would therefore not be necessary to argue further. The other members of the High Court concurred with the Chief Justice. The rule nisi was discharged, the magistrate's conviction was quashed and the Crown was ordered to pay costs.

It has thus been established that the action taken by the New South Wales Government in restricting the freedom of persons on land in connexion with the influenza epidemic was illegal. Since the conviction in this case was wrong, the same would apply to all the convictions under the provisions of the *Quarantine Act* of 1897 for failure to wear masks or for any breaches of the numerous proclamations issued.

THE ALKALOIDS OF IPECACUANHA.

The plant, *Cephælis ipecacuanha*, belongs to the family, Cinchonaceæ, and grows in damp, shady woods in Brazil and some other parts of South America. It has been brought under cultivation in India and Ceylon, although it tends to form numerous varieties under artificial conditions. The portion used in medicine is the root, which is gathered in summer and autumn and dried. The bark of the root contains the active principles. In 1894 Paul and Cownley published their account of the isolation of three separate alkaloids, emetine, cephæline and psychotrine, from ipecacuanha bark. Twenty years later Carr and Pyman showed that cephæline can be derived from psychotrine by reduction and that emetine is the monomethyl ether in cephæline. They were also able to demonstrate that these alkaloids belong to the large class of naturally occurring bases derived from isoquinoline. Emetine has been much used in the treatment of amœbic dysentery. In some instances the amœbæ, responsible for the disease or its complications, are not destroyed by emetine given in therapeutic doses. Research has, therefore, been undertaken by F. L. Pyman with the object of procuring preparations from ipecacuanha in which the relative toxicity of amœbæ and man will be greater than with emetine. The pharmacological study of these compounds has been made by C. M. Wenyon, H. H. Dale, C. C. Dobell and G. C. Low. In the first place[1] two new alkaloids have been separated from ipecacuanha. One is the monomethyl ether of psychotrine; the other has not been precisely identified and is called emetamine. In the second place[2] isoemetine has been prepared from isocephæline. Psychotrine yields equal proportions of cephæline and of isocephæline upon reduction. By methylation these latter bodies form emetine and isoemetine. Isoemetine is less toxic to rabbits than emetine. The lethal dose per kilo. for emetine hydrochloride is 4.0 mg. approximately, while for isoemetine hydrocloride it is 8.0 mg. per kilo. of rabbit. Isoemetine does not give rise to nausea when administered to men in comparatively large doses, but it does not appear to have any effect on *Entamœba histolytica*. Thirdly, some methyl derivatives of emetine have been synthetized. They do not appear to have any important advantage therapeutically over emetine.

THE CASE OF EUGEN HIRSCHFELD.

The following letter has been addressed to the Prime Minister of Australia by the Queensland Branch of the British Medical Association on November 8, 1919:—

Sir,—I have the honour, by direction of the Queensland Branch of the British Medical Association, to forward to you the following resolution, which was unanimously carried by the members at a general meeting held on the 7th instant:—

> As it is impossible to doubt that there must have been sufficient reason for the internment of Dr. E. Hirschfeld, ex-German Consul, we are of the opinion that the generous treatment accorded to him in this community prior to the war accentuates enormously any disloyalty he may have shown and accentuates also the necessity for his deportation.

I have the honour to be,
Your obedient servant,
J. CAMERON HEMSLEY.

VICTORIAN EXPENDITURE IN COMBATING INFLUENZA.

In submitting his budget to the Committee of Supply of the Legislative Assembly of Victoria, the Treasurer, Mr. McPherson, referred to the recent outbreak of influenza. The expenditure in 1918-1919 was £113,877 and the further provision in 1919-1920 would be £100,000 under votes and £23,442 under a Surplus Revenue Bill, a total provision of £237,319. Of this expenditure, a considerable amount would be recouped by municipalities and by the sale of equipment and stores, but the total sum obtained by such repayments would not be known for some time.

[1] *Trans. Chem. Society*, Vol. CI., p. 419, December, 1917.
[2] *Trans. Chem. Society*, Vol. CIII., p. 222, December, 1918.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(177) Jaw Winking Phenomenon.

Anton Lutz reviews the literature, symptomatology and explanation of the jaw winking phenomenon (*Archives of Ophthalmology*, March, 1919). It consists in a retraction of the upper eyelid during movements of the jaw, face, pharynx and tongue. It was first described by Marcus Gunn in 1883 and since then about 90 observations have been published. It appears more frequently in the male than in the female. It is generally noted on the left side; in only two cases was it bilateral. The phenomenon was in evidence at birth in the majority of patients and continued during life without alteration. In seven cases it appeared in later years, from the sixth to the fifty-fifth year; in a few cases it disappeared. Sometimes several members of a family are affected. It is best observed when the patient looks downwards. It is nearly always involuntary. It appears very rarely alone without complication, most commonly ptosis, which is present in 80%. There may also be paralysis of the *rectus superior* and more rarely of the other eye muscles. The phenomenon can be produced by lowering the jaw, by laughing, sucking, swallowing, thrusting out the tongue, by lateral movements of the eyeball and by closing the lid of the other eye. These show that retraction of the eyelid is associated with innervation of the trigeminus which lowers the jaw, with that of the external rectus, facial muscles, *orbicularis oculi* and *genioglossus*. These movements are all so-called principal movements of Munk, whose centres are situated in the *thalamus opticus*. After reviewing various theories of causation, the author states: "The vehemence of the phenomenon, the fact that it could voluntarily be produced in one of my cases, and the fact that it can be acquired suddenly, induced me to believe that the 'J.W.P.' is caused by the supression of a normally existing inhibition." It is produced by alterations of the supranuclear connexions of the bulbar nuclei travelling in the *fasiculus longus posterior* and probably by a lesion of the inhibitive mechanism, just before the dentrites of the damaged nuclear cells of the *nervus oculomotorius*. Herbert Robson has reported a similar concomitant movement of the lower eyelid, with movements of the tongue and lower jaw.

(178) Faulty Cranio-Spinal Alignment and Heterophoria.

Lloyd Mills recalls the admitted connexion between hyperphoria and torticollis, the latter being the result of the former and disappearing when the hyperphoria has been corrected (*Amer. Journ. Ophthalm.*, July, 1919). It is, however, the converse proposition that is the subject of the present article. Examination of a number of crippled children revealed a higher percentage of astigmatism and muscle imbalance, as compared with the same number of consecutive eye cases. Risley, in a study of a number of cases of cranial and facial asymmetry, found instances of refractive defects and muscular imbalances, which he considered the result of the former conditions. Stevens considers that the prevalent "right-handed" system of education results in overdevelopment of the left motor cerebrum, with consequent cranial asymmetry and left cyclophoria. Sherrington, writing on the sensual rôle of the proprioceptive nerve supply of the extrinsic ocular muscles, emphasizes the fact that spatial perceptions are not purely visual, but rather visuo-musculo-labyrinthine. Thus, the author argues, an altered state of the muscles supporting the shoulder girdle, neck and head, by deviating the head from verticality, may produce an altered static state of the extrinsic muscles of the eyeball, which causes altered muscular sensation in maintaining the eyeballs in their new postures. The skull may be considered as a terminal vertebra superimposed upon the atlas and axis; when the muscular balance is symmetrical there is vertical orthophoria. The muscles of the shoulder girdle—trapezius and deeper muscles—have the important function of fixing the neck during all visual concentration; asymmetrical development, the result of dextiality, is an influence leading to hyperphoria.

(179) Ocular Lesions After Anti-Typhoid Vaccination.

R. Pacheco Tuna reports a case of his own and reviews the literature bearing on the ocular lesions following prophylactic injections of anti-typhoid vaccine (*Amer. Journ. Ophthalm.*, July, 1919). His conclusions are best expressed in a summary. (*i.*) There exists no ocular lesion depending directly and exclusively upon the anti-typhoid vaccine. (*ii.*) *Herpes febrilis* of the cornea is the ocular lesion which is admittedly dependent upon anti-typhoid vaccine; but in certain cases, as in the author's observation, it dealt with a recurrence and one must admit predisposition; a similar statement applies to iridocyclitis. (*iii.*) Pyæmia is the result of faulty aseptic technique and may produce metastatic purulent iridocyclitis. (*iv.*) It is not prudent to vaccinate luetic, tubercular and rheumatic subjects who may have previously had lesions of the uveal tract.

(180) Phlyctenular Conjunctivitis and Adenoids.

George Milne relates two interesting cases of the association of phlyctenular conjunctivitis and adenoid vegetations (*British Journ. Ophthalm.*, April, 1919). The first was that of a boy of four years, who, in spite of treatment, suffered for eighteen months with photophobia and blepharospasm and raised phlyctena. Glasses were prescribed, *syrupus ferri iodidi* was given internally and a weak yellow ointment was applied locally, but at the end of a month there was no improvement. After an attack of tonsillitis his tonsils and adenoid vegetations were removed with immediate improvement, and, a few days later, cure of his eye condition. The second patient, a girl of 11, suffered in the same way. She had also tubercular glands in the neck. After routine treatment without success her tonsils and adenoids were removed and three weeks later her eyes were quite well. The mother believes that there is also a causal relation between the cervical glands and the adenoids.

(181) Detachment of the Retina in Eclampsia.

After examining all the albuminuric cases for 14 years in the Maryland Lying-in Hospital, it was not until the last 18 months that C. A. Clapp discovered an instance of retinal detachment; during this period he found six (*Amer. Journ. Ophthalm.*, July, 1919). Case I., 2nd pregnancy; detachment above and below in the right eye, below in left; general retinal œdema and a few hæmorrhages. In three months the condition cleared up. Case II., swelling of each nerve head, œdema, detachment below in both eyes, exudation and hæmorrhages; recovered after six months. Case III., right eye: large detachment below and above and on each side; left eye: the same. Two months later no detachment was visible. Case IV., intense nerve-head œdema in the right eye; small detachment above and to the outer side. Left eye: œdema exudate and hæmorrhages. Case V., right eye: œdema; left eye: detachment below, like a large wrinkle. Case VI., wrinkle-like detachment and neuroretinitis on both sides. The prognosis, as far as the detachment is concerned, is good; the vision, however, depends upon the damage done by the neuroretinitis. Focal treatment did not appear to have any influence on the condition.

(182) Artificially-Produced Ophthalmia.

G. McPherson and P. G. Doyne record 136 cases of artificially-produced ophthalmia among the Indian troops in Mesopotamia in the year 1917-1918 (*Brit. Journ. Ophthalm.*, July, 1919). Among the substances used were jequirity, croton oil and castor oil seeds. These objects are generally found in the patient's kit. A small piece of the jequirity pulp, which is white, is easily mistaken for mucus. The irritant as a rule is introduced into the lower fornix, occasionally in the upper fornix as well. There is swelling and œdema of the lower lid and lower half of the bulbar conjunctiva, with occasionally a slough in the centre of the fornix. The upper part of the eyeball is normal. A striking feature is the absence of discharge, the clearness of the cornea and rapid clearing up when the irritant is withdrawn. The clinical picture is quite characteristic of the condition and the slough in the fornix is pathognomonic. but is not usually recognized by medical officers. It is often mistaken for gonorrhœal infection, backed up in one case by bacteriological examination.

LARYNGOLOGY.

(183) War Neuroses of the Larynx.

Most of the patients losing their voices from shell or gas shock, have it restored in a few days by rest or treatment by electricity, etc.. H. Smurthwaite (*Journ of Laryng., Rhin., Otology*, January, 1919) from an experience of 260 cases of from three to twenty-four months' duration, comprising 13 cases of absolute mutism, 239 of aphonia and 10 of stammering or stuttering, states that, though a few are due to primary laryngitis consequent on the irritation of the gas, a larger number are caused by pure shock. He assumes that a patient unable to cough or speak has an organic lesion, nerve or otherwise, but if unable to phonate, but can cough normally, then he has some of form of adductor paresis, which is, as a rule, functional. In cases of the latter class four positions of the cords are found on attempted phonation: (1) cords elliptical (*thyro-arytenoideus internus* paresis); (2) cords freely abducted, in cadaveric position; (3) both true and false cords tightly pressed together; (4) cords approximate in anterior two-thirds, triangular space in posterior one-third (paresis of *inter-arytenoideus*). False cords meet in middle line due to air distension of ventricles from upward air pressure. When there is no organic mischief and the patient can freely abduct the cords, but an attempt to pronounce "ah" brings the cords into any of these positions, the case is almost surely functional, though myopathic paresis, from early tuberculosis, has to be excluded. The treatment is both moral and physical, the former being by far the more important. Having made sure of the diagnosis, the patient is got by himself and assured with emphasis that he has absolutely nothing of a serious nature in his larynx and that there is no reason why he should not speak normally, etc.. With firmness, confidence and conviction of his adviser's ability to restore his natural voice, the power is instilled into him to make the initiatory effort to bring his cords into the proper position, or the necessary expiratory blast for voice production. Without exception all these patients breathe shallowly and must be taught to breathe correctly and then to attempt phonation only during expiration. The patient is made to expand his chest fully several times, then to hold the breath at full expansion and make a quick expiratory effort or cough. This generally elicits quite a good note. Sometimes the act of laryngeal examination—the tongue being forcibly pulled out and the patient told to say "ah"—is sufficient. In cases of increased laryngeal tension or tonic spasm the author assists the patient to increase the upward pressure of air by compressing the lower ribs, directing him to use his abdominal muscles forcibly to phonate the sound "ah." If this fails, he makes him forcibly groan, at the same time withdrawing the tongue. The placing of a laryngeal probe directly into the larynx has the effect of relaxing the pressure, if the patient be told to cough at the same time. By these means the first musical sound is eventually elicited. The muscles of phonation then require exercise to increase their tonicity. The patient must draw out his tongue forcibly himself and practise saying "ah." He must go through a course of deep breathing and practise humming tunes. Next the humming is interrupted with the lips and tongue and then the phonation of "ah" tried without the humming. The patient attempts counting, phonating each note slowly to keep the cords in natural vibration. He then essays reading aloud. Stammerers and stutterers must be taught to breathe correctly and deeply. The former must be shown how to sound his consonants, the latter must practise his vowels. The vowel sounds must be attempted staccato and later the consonants are added. Great patience and persistence are often required.

(184) Tuberculomata of the Nose.

Two cases of this rare affection are reported by James Harper (*Journ. of Laryng., Rhin., Otology*, March, 1919). They both occurred in healthy, married men over middle age, in whom, or in whose family histories, there was no evidence of tuberculosis. The lesions were identical, occupied the same site in the nose and caused similar symptoms. There was gradually increasing nasal obstruction, a profuse watery nasal discharge and sneezing in the morning. A pedunculated growth was found springing from each side of the septum at the junction of the cartilaginous portion with the maxillary ridge of the superior maxilla. It extended from just within the nostrils backwards for 3.8 cm.. Reddish grey in colour and of uneven mammillated appearance, it was firm and resistant and showed no tendency to bleed when probed. In one case there was ulceration at the anterior end of the growth in one nostril and some infiltration of the mucosa on both sides of the septum for 0.6 cm. above the growth, somewhat resembling early lupus in appearance. Microscopically the neoplasm presented a typical tubercular appearance. There were scattered masses of cells throughout the growth, with epithelioid and giant cells in the centre of the masses, but no tubercule bacilli were found except in the tissue about the ulcerated area. The growths were excised, the bone beneath the attachment being chiselled away in the case of the ulcerated tumour. They healed rapidly and without recurrence during five and a half and four and a half years respectively.

(185) Diagnosis of Acusticus Tumour.

"The clinical diagnosis of an acusticus tumour can be made with reasonable assurance only when auditory manifestations definitely precede the evidences of involvement of other structures in the cerebello-pontine angle."—Cushing, quoted by I. Friesner (*New York State Journ. of Medicine*, April, 1919). Patients with such tumours usually present themselves to the otologist, as the auditory symptoms may precede all other symptoms for years. The symptoms are often ushered in by a sudden onset of tinnitus, accompanied by deafness. Auditory and vestibular symptoms may, however, appear simultaneously. The most characteristic spontaneuos evidence of disturbance in the vestibular apparatus, due to cerebello-pontine angle tumours, is the vertical nystagmus directed upwards. To elicit it, the patient's vision is directed to the observer's finger held close to the patient's forehead. Eagleton found in a case of bilateral deafness, associated with brain tumour, that the hearing of one ear was restored by decompression, but the vestibular apparatus in both ears remained totally unirritable. The loss of caloric irritability in the sound ear is frequently confined to the vertical canals. Occasionally, when the unaffected ear is irritable calorically, the impulse aroused by the stimulation does not pass to its normal conclusion. Caloric stimulation of the vertical canal, instead of a rotary nystagmus to the opposite side, may induce a vertical nystagmus upwards and from caloric stimulation of the external canal an oblique nystagmus. Friesner thinks that this phenomenon, as well as the spontaneous vertical nystagmus upwards, always indicates pressure on, or actual involvement of, the brain stem and never a peripheral lesion. Painstaking examinations by tuning-forks and careful analysis of the vestibular reactions are necessary to avoid grave errors of diagnosis.

(186) Menière's Disease.

A man, *æt.* 47 years, a non-smoker, a teetotaller, with a normal blood pressure, during a period of five years, usually at intervals of a few months, had severe attacks of vertigo—sudden falling attacks, accompanied by violent sickness and swishing noises in the head—which prostrated him sometimes for days together. Adair Dighton (*Journ. of Laryng., Rhin., Otology*, February, 1919) found the right ear normal, but the tympanic membrane in the left ear thick and retracted, tinnitus present. Rinné's test was negative; Weber's test led to a lateralization to the right; Schwabach's reaction was increased; hearing for high tones was markedly diminished and the caloric test (15 c.cm. of water at 27° C.) produced violent reaction. Dighton diagnosed hypertension and hyper-irritability of the labyrinth (non-suppurative labyrinthitis), and advised surgical interference. He performed a radical mastoid operation on the left ear and two days later a complete Jansen-Neumann intracranial labyrinthectomy. Recovery was uneventful and the patient, a dock board inspector, returned to work three and a half months after operation. When seen exactly three years later he stated that he had had no recurrence of the vertiginous attacks, tinnitus or other symptoms referable to his ear, was in excellent health and had been engaged uninterruptedly at his duties, heavily increased owing to the war, since this resumption of work after the operation.

VENEREAL DISEASES ACT, 1918, NEW SOUTH WALES.

The following regulations under the *Venereal Diseases Act, 1918*, of New South Wales have been published in the *Government Gazette*, No. 255, of November 10, 1919. Appended to the regulations is a schedule containing various forms to be used in connexion with the Act:—

Venereal Diseases Act, 1918.

1. These Regulations shall be entitled the "Venereal Diseases Regulations, 1919," and shall come into operation on the 1st day of January, 1920.

2. Words importing the masculine gender shall be deemed and taken as including females.

Treatment by Medical Practitioner only.

3. No pharmaceutical chemist shall sell or supply to any person drugs or medicines for the treatment of venereal diseases other than on the prescription of a duly qualified medical practitioner.

The undermentioned drugs shall not be sold or supplied by a pharmaceutical chemist except when prescribed by a duly qualified medical practitioner:—

(*a*) Any patent or proprietary medicine which is specifically recommended for the cure, alleviation, or treatment of any venereal disease (or diseases).
(*b*) Any synthetic organic arsenic compound.
(*c*) Any synthetic organic silver compound.
(*d*) Grey oil or any mercurial emulsion specifically prepared for the cure, alleviation, or treatment of any venereal disease (or diseases).
(e) Hydrargyrum cum Creta (or its admixtures), biniodide of mercury, tannate of mercury or cyanide of mercury, in pill or tablet form.
(*f*) Sandalwood oil, or its derivatives, copaiba or its derivatives, in the form of emulsions or capsules.
(*g*) Methylene blue in the form of pills, tablets, or capsules.
(*h*) Any medicated bougie.
(i) Gonococcus vaccines, serums, and gonorrhœal phylacogen.

Persons Suffering from Venereal Disease to keep under Treatment.

4. In the case of any person suffering from syphilis, such person shall attend for treatment as provided in these Regulations at least once in every two weeks during the continuance of primary or secondary symptoms, and thereafter not less than once in every four weeks.

In the case of any person suffering from gonorrhœa, such person shall attend for such treatment at least once in every seven days during the continuance of acute symptoms, and thereafter once every fourteen days.

In the case of any person suffering from soft chancre, such person shall attend for such treatment at least once in every seven days.

In the case of any person suffering from gonorrhœal ophthalmia, such person shall attend for such treatment every day during the acute stage, and thereafter once in every seven days.

In the case of any person suffering from venereal granuloma or venereal warts, such person shall attend for such treatment once in every seven days.

In the case of any person suffering from gleet, such person shall attend for such treatment once in every fourteen days.

Treatment at Subsidised Public Hospitals.

5. The committee of every subsidised hospital may at the request of any medical practitioner receive into their institution for examination and treatment, free of charge, any person certified by such medical practitioner to be suffering from a venereal disease: Provided it shall be at the option of the authorities of such institution to treat such person as an outdoor or indoor patient.

Change of Medical Practitioner.—Notices to be given.

6. When any person suffering from any venereal disease, who has consulted and placed himself under treatment by a medical practitioner, has consulted and placed himself under the treatment of another medical practitioner and informed him of the name and last-known address of the medical practitioner by whom he was previously treated, the medical practitioner so informed shall forthwith notify the medical practitioner who previously treated such person on Form A in the Schedule hereto, and such last-mentioned medical practitioner shall forthwith notify the Commissioner on Form D in the Schedule hereto.

Reporting Cases.

7. Every medical practitioner on becoming aware that any person consulting him, or attended, or treated by him, is suffering from any venereal disease shall, within seven days, notify the Commissioner on Form B in the Schedule hereto.

The fees payable to medical practitioners for notices sent or given to the Commissioner pursuant to the provisions of this section shall be:—

(*a*) For every case which occurs in his own private practice, two shillings and sixpence.
(*b*) For every case which occurs in his practice as medical officer of any hospital other than a hospital licensed under the Private Hospitals Act, one shilling, provided that such medical officer is not in receipt of any remuneration as an officer of the hospital referred to.

Failure to Continue Treatment.—Name and Address of Patient to be Reported.

8. When any person suffering from any venereal disease who has been treated, or attended, by a medical practitioner (and has not received a certificate of cure) fails to attend or consult such medical practitioner within ten days of the periods specified under Regulation 4, such medical practitioner shall forthwith send a notice to the Commissioner on Form C in the Schedule hereto unless such medical practitioner has (before the expiration of the said period of ten days) received from another medical practitioner a notice that such person has placed himself under treatment by such other medical practitioner.

Warnings to Patients.

9. Every medical practitioner who attends, treats, or advises any person (other than a person under 16 years of age) for or in respect of any venereal disease from which such person is suffering, shall deliver to such person a notice as prescribed on Form E in the Schedule hereto.

Certificates of Cure or Freedom from Venereal Disease.

10. (1) In the case of syphilis no certificate of cure shall be given unless:—

(*a*) Two years shall have elapsed from the first appearance of the primary manifestation; and
(*b*) the patient shall have undergone treatment for a period of at least twelve months to the satisfaction of the medical practitioner in attendance; and
(*c*) there shall have been no manifestation of syphilis since the completion of the last course of treatment, provided that a period of at least three months has elapsed since same; and
(*d*) a specimen of the patient's blood taken at least forty-eight hours after an injection of salvarsan or an efficient substitute therefor shall have given a negative Wassermann's reaction when examined by a medical practitioner: Provided that in the case where it is clinically inexpedient to use salvarsan or its substitutes, Wassermann's test shall be negative on two occasions separated by at least two months.

No certificate of having ceased to be liable to convey syphilitic infection shall be given unless the conditions above have been satisfied: Provided that a certificate may be given if one year has elapsed from the first appearance of the primary manifestation, and the other conditions specified in such clause have been satisfied; or if two years have elapsed with satisfactory intermittent treatment even though the Wassermann's action remains positive.

(2) In the case of gonorrhœa no certificate of cure shall be given unless:—

(*a*) All signs of inflammation shall have been absent for at least one month; and
(*b*) microscopic urinary examination by a medical practitioner for the purpose shall have failed to detect the presence of gram negative diplococci resembling gonococci;

such examination to include at least two specimens taken at intervals of at least one week.

No certificate of having ceased to be liable to convey gonorrhœal infection shall be given unless the conditions above have been satisfied.

(3) In the case of soft chancre no certificate of cure, nor of having ceased to be liable to convey infection, shall be given until the lesions have entirely healed.

When any medical practitioner has issued a certificate under Section 14 of the Venereal Diseases Act, 1918, he shall forthwith notify the Commissioner.

The forms of certificate and of such notice shall be those in Form G in the Schedule hereto.

Parents and Guardians.

11. (*a*) Every medical practitioner who attends, treats, or gives advice with respect to a child suffering from venereal disease shall give to the parent or guardian or other person in charge of the child the directions contained in Form F in the Schedule hereto, and if such parent, guardian, or other person refuse or neglect to carry out such directions he shall be liable to a penalty not exceeding ten pounds.

(*b*) Any parent or guardian or person in charge of a child suffering from any venereal disease who is unable to exercise sufficient control to induce or compel such child to comply with the conditions of the Act in so far as it relates to children, shall report such fact to the Commissioner on Form H in the Schedule hereto.

Return of Cases.

12. Every medical practitioner shall forward to the Commissioner on or before the 31st January each year a return of the number of cases of venereal diseases treated by him, and of the number of cases cured during the preceding calendar year, and such return shall be as prescribed in Form J in the Schedule hereto.

Seizure of Articles capable of being Used Unlawfully for the Alleviation of Venereal Diseases.—Form of Warrant.

13. The special warrant under section 26 of the Act shall be that prescribed in Form K in the Schedule hereto.

Fees Payable.

14. Where an arrangement is made by the Minister under section 27, subsection (*b*), of the Act for the examination or treatment by medical practitioners of a person suffering from venereal diseases, the remuneration to such medical practitioners shall be as under:—

(*a*) For an examination the sum of ten shillings.

(*b*) For treatment, the first attendance on each patient, the sum of seven shillings, and for each subsequent attendance the sum of five shillings.

Prescribed Places for Attendance and Treatment.

15. The Hospitals and other places enumerated below shall be the prescribed places for attendance and treatment under the provisions of section 4 of the Act:—

All general public hospitals subsidised by the Government:
The Coast Hospital:
The David Berry Hospital:
Newington State Hospital and Asylum:
Rookwood State Hospital and Asylum:
Liverpool State Hospital and Asylum.

Penalties.

16. Any person contravening any provision of the Regulations for which no specific penalty has been imposed shall be liable to a penalty not exceeding twenty pounds.

THE HEALTH OF MELBOURNE.

A few months ago the Health Committee of the City of Melbourne issued its report for the year 1918. This report is admirably constructed and enables the reader to obtain a general idea of the manner in which the work has been conducted.

Vital Statistics.

The population of the city of Melbourne was estimated to be 105,770 in 1918. The increase for the year represented approximately 80 individuals. There were 3,425 births registered, of which 1,466 took place at the Women's Hospital. Dr. T. W. Sinclair, the Officer of Health, has explained in previous reports the difficulty in assessing the proper correction for calculating the birth-rate. Excluding all the births which took place in the Women's Hospital, the birth-rate was equivalent to 18.52‰ of population. In 1917 the birth-rate calculated on the same principle, was 19.33‰.

The total number of deaths which occurred within the city during the year was 1,185. In 1917 the figure was 1,150. The death-rate corrected by the exclusion of persons usually resident outside the city who died within the city and the inclusion of those usually resident within the city who died in hospitals for the insane, sanatoria for pulmonary tuberculosis and other institutions, was 11.2‰. A curve is published of the annual death-rate from the year 1887. Between 1887 and 1891 there was no apparent tendency to fall. A definite improvement was registered in the following year, while the whole curve shows a downward tendency. The decrease in the death-rate represents approximately 0.3 per 1,000 per annum. The curve indicates a general improvement in the health conditions of the city.

The chief causes of death are as follows. Of the 1,185 deaths, 213 were due to diseases of the cardio-vascular system. We note with eminent satisfaction that Dr. Sinclair has recognized that cerebral hæmorrhage is pathologically a condition of the cardio-vascular system and not, as is assumed under the Bertillon system, a disease of the nervous system. We have for several years emphasized this point and, as far as we are aware, Dr. Sinclair is the first to make the obvious correction. The second most frequent source of death is pneumonia, which appears in the table opposite the figure 96. There were 95 deaths from cancer, 91 from Bright's disease, 90 from tuberculosis of the lung, 70 from developmental diseases (this entry in the classification should be amended in accordance with what is known of pre-natal pathology), 66 from prematurity, 55 from old age, 49 from accident or negligence, 44 from diarrhœa and enteritis, 34 from various nervous diseases, 27 from bronchitis, 21 from influenza, 20 from septic infections other than puerperal, 18 from diabetes, 12 from diseases of the stomach, 10 each from diphtheria, appendicitis and intestinal obstruction and less than 10 in connexion with the other common causes of death. The total number of deaths from tuberculosis was 99. The increase in the number of deaths was due to the greater prevalence of influenza, pneumonia and diarrhœa and enteritis, while pulmonary tuberculosis, cancer, Bright's disease, diabetes and bronchitis led to more deaths than in the previous year. It is satisfactory to note that there were but two deaths from enteric fever and the same number from puerperal fever.

The infantile mortality stood at 74 per 1,000 births. There has been a gradual and steady decrease in the death-rate of infants under 12 months of age during the past 20 years.

Notifiable Infective Diseases.

Scarlet Fever.

During the year 1918, 160 cases of scarlet fever were notified to the authorities. This is equivalent to an attack rate of 1.52 per 1,000. Only one death occurred. In the short paragraph dealing with this disease, it is pointed out that eight children were affected in institutions. The greatest number was at the Children's Home at Parkville, where five inmates contracted the disease. Isolation appears to have been carried out to the satisfaction of the nurse-inspector and steps were taken to remedy insanitary defects discovered in the premises where scarlet fever had broken out. No mention is made of any organized attack on the source of the infection.

Diphtheria.

The total number of cases of diphtheria notified was 564. In 61 instances the disease was discovered in the inmates of an institution. Dr. Sinclair points out that the spread of the disease was not traced in any instance to the milk supply, nor was he able to satisfy himself that the infection was passed on at school. The attack rate is given as 5.33 per 1,000 of population. The disease was most prevalent during July and August. In addition to the 61 institutional cases, there were 115 cases in which two, three or four members

of the same household were affected and 388 in which only one member was affected. No further information is available concerning the source of infection, the method of spread or the means taken to check the spread. The type of disease was apparently mild, since the case mortality was 1.77%. It appears that in 1898 the case mortality was as high as 12.68%. Since that date it has been below 3% only twice. It has not been below 2% before the year 1918.

Enteric Fever.

During the course of the year 11 cases of enteric fever were notified. Dr. Sinclair expresses satisfaction at the lowness of this figure, which is seven below that recorded in 1917 and 12 below those recorded in 1915 and in 1916. In the year 1898 no less than 237 cases of enteric fever with 27 deaths, were recorded within the city. The effect of improved sanitation and a larger control of the hygienic conditions is apparent from the records. With the exception of the year 1910, when, for some obscure reason, the incidence of the disease was temporarily doubled, there has been a steady decrease, until this disease has become relatively infrequent. With vigilance and the expenditure of energy it should be possible to remove enteric fever from the list of infective processes affecting the city population. Of the 11 patients attacked, two died.

Cerebro-Spinal Meningitis.

Cerebro-spinal meningitis was epidemic in 1917. In 1918 only seven cases were notified. It is stated that each of these cases was sporadic in character and that investigation did not disclose any connexion between them. We venture to hazard the opinion that the investigation must have been incomplete, since it is inconceivable that seven cases of a highly specific infection could occur in one city independently of one another. There is evidence to show that meningococcal infections are passed on from person to person or through the intermediation of a carrier and that intimate contact is essential for the spread. It is significant that the persons attacked were four males and three females, since it has been alleged that the most frequent method of conveyance of the meningococcus from person to person is by kissing. Four of the seven patients died.

Acute Poliomyelitis.

There were 13 cases of acute poliomyelitis notified during the year. Again Dr. Sinclair has been unable to trace any connexion between these cases. He states that the patients lived in dwellings widely separated from one another. The absence of any apparent relations between the patients or of any known vector does not disprove the possibility that the infection was in fact passed from one to another of these patients. Strict isolation was enforced by the Council's nurse in all these cases. Nine of the patients were removed to hospital for treatment. Of the 13 patients, six recovered with some resultant paralysis, while one died.

Influenza.

Influenza was declared an infectious disease on November 13, 1918, and became notifiable on December 4, 1918. There were only three notifications between December 4 and December 31, 1918. There were in all 21 deaths from influenza during the year. This number is the largest since 1899, when 29 deaths from influenza occurred. It is recorded that a leaflet descriptive of the precautions to be taken against the spread of influenza, was prepared by the Health Committee and distributed from house to house in November and December. The members of the staff of the Health Office were inoculated with the vaccine, the nature of which is not disclosed.

Tuberculosis.

In the year 1913 pulmonary tuberculosis became notifiable in Victoria. In that year 156 cases were reported in the city, while in subsequent years the number has gradually decreased to 105 in 1917. In 1918 there were 107 notifications. It is not certain, however, that the decrease in the number of notified cases actually represents a decrease in the incidence of the disease. The number of deaths between 1911 and 1915 varied from 106 to 76. The average was 93, which was exceeded in 1911, 1913 and 1914 and not reached in 1912 and 1915. Since 1915 the deaths which occured in the Austin Hospital of persons usually resident in the city, have been added. Their number is not stated. The average number of deaths during the three years was 89.6. The lowest number was in 1917. During the course of the years 113 persons were admitted to four sanatoria. The nurse-inspector paid 1,096 visits to the homes of consumptives. Sanitary defects were discovered in 55 of the homes and the occupiers were required to carry out the necessary alterations.

Puerperal Fever.

Only two cases of puerperal fever were notified. Both these cases occurred in women at the Women's Hospital and both were fatal. It is extremely improbable that these two cases represented all the puerperal infection during the 12 months.

Sanitary Control.

The Council's staff carried out disinfection of premises in 837 cases, while in eight further instances the disinfection was performed satisfactorily by the occupier.

Sanitary defects were discovered in 815 premises. In 660 repairs satisfactory to the Council were effected. The number of houses demolished was 30, while the remaining 125 were either vacated or were under the course of repair at the end of the year.

The inspectors paid 4,253 visits to restaurants and other premises where food was prepared or sold. The premises were dirty in two cases, unwholesome food was found in two others and persons smoking in the kitchen were detected in four. The offenders in these instances were fined £34 1s. 6d., or an average of £4 5s. each. Surely such a fine is totally inadequate.

Structural alterations and improvements were required in 69 premises. Three were abolished, 11 were wholly reconstructed and 55 were partly reconstructed. On 12 occasions unwholesome food or food unfit for human consumption was seized and destroyed. The food included bananas, lemons, confectionery, cake, fish, meat and various dried fruits.

The control of common lodging houses was apparently effected without much difficulty. There was one new registration. Three premises that had previously been registered, were closed. Notices to have defects of an insanitary nature removed were issued in respect of seven premises. One keeper was fined £3 1s. for not keeping the beds and blankets free from vermin. We venture to suggest that a small fine of this description is unlikely to have a deterrent effect.

Food Adulteration.

The Council caused 321 samples of food to be purchased for the purpose of analysis. Of these, 284 were milk and five were sausage meat. Nine of the milk samples and four of the others were found to be adulterated. The fines and costs resulting from nine prosecutions amounted to £56 9s.. We have pointed out on previous occasions that there is a good profit attached to the selling of watered milk, when the fines and costs are unlikely to exceed £6.

Maternal and Infant Visitation.

The nurse-inspector is required to visit the houses where babies are born. The number of visits paid were 1,928 and the number of infants visited was 1,762. Of these, 1,452 were breast-fed, 179 were fed on cow's milk, 78 were fed on other foods and 53 had *allaitement mixte*. The Victorian Babies' Health Centres were allowed to use portions of the North Melbourne Town Hall for their work. It is stated that satisfactory results were obtained at these Health Centres, where 539 infants came under supervision. Arrangements were made for the supply of special milk from the Talbot Institute at low rates for 94 infants.

Bacteriological Work.

Dr. R. J. Bull, the Director of the Bacteriological Laboratory, University of Melbourne, publishes a separate report, dealing with the bacteriological work carried out for the City Council. This work included the examination of swabs for diphtheria bacilli and meningococci and the bacteriological examination of the city milk. As a rule, samples were taken on Monday morning, as it was thought that more evidence of staleness would be present at this than at any other time in the week. Twelve samples were examined and it was found that an average of 1,110,000 micro-organisms

were present per cubic centimetre. The worst sample contained 4,050,000. Eight of the twelve samples contained a sufficient number of lactose fermenters to yield growth from 0.04 c.cm.. Dr. Bull holds that greater care would result in a general improvement in the cleanliness of milk. Two of the samples were satisfactory.

INEBRIATES IN SOUTH AUSTRALIA.

A chapter of the report on gaols and prisons in South Australia for the year 1918, is devoted to the application of the provision of the *Convicted Inebriates Act, 1913*. During the five years since the introduction of this Act, 128 persons have been declared to be convicted inebriates. During the year 1918, eight persons, including six males and two females, came under the provisions of the Act. Since the institution of the Act 112 persons were released on licence and 27 of them were released twice. The licences were revoked 78 times. In 1918 23 licences were revoked.

Convicted Inebriates' Institution at Adelaide Gaol.

There were 15 persons in confinement in the Convicted Inebriates' Institution at the Adelaide Goal at the end of the year, and 37 in the Convicted Inebriates' Institution at Gladstone Gaol. During the course of the year, 22 persons were convicted under the Act and sent to the Adelaide Gaol. Eleven were males and 11 females. Eight of these males and nine of the females had their licences removed, and one of the females was declared to be a convicted inebriate for the second time. It thus appears that, of 22 persons, 18 had previously been dealt with. It is stated that this large percentage of failure is not to be wondered at, in view of the class of person dealt with. The majority of the individuals were old and had been convicted on numerous occasions before. One female had 279 previous convictions recorded against her, the first dating 38 years previously. Eighteen persons were transferred to the institution at Gladstone and three were transferred to the Adelaide Hospital for medical or surgical treatment. A female inebriate was released on licence to enable her to enter into matrimony. Arrangements were made and the marriage took place on the day of her release. Apparently the honeymoon was of short duration, for the bride returned to the institution a fortnight later, with her licence revoked for the third time and, in addition, she received a sentence of three months' hard labour for being a rogue and a vagabond.

One of the inmates suffered from a condition necessitating the removal of an eye. A second needed medical treatment for a delirious condition, probably of the nature of *delirium tremens*, while a third was under treatment for eczema. It is stated that the conduct of the inmates had been good. In only one instance was it necessary for a visiting Justice of the Peace to intervene.

Of the 12 females in the institution on the last day of the year, eight were described as prostitutes when at liberty, three as servants and one as a housewife. While in prison they were required to undertake sewing, laundry work and work in a ward. The earnings to their credit on the last day of the year varied between £1 4s. and £4 10s. 11½d. Of the three males, one was a tinsmith, and was required in prison to perform tinsmith's duties. The other two were placed in the probationary division. One of them was an upholsterer and was occupied in prison at his own trade, while the other was a seaman, who was required to make straw envelopes.

Convicted Inebriates' Institution at Gladstone Gaol.

The number of inebriates admitted to the institution at the Gladstone Gaol during the year was 26. This number included 14 males and 12 females. Eleven of the males and eight of the females, however, had had their licences revoked. The record shows that 31 inmates were released on licence and that one male was transferred to the Yatala Labour Prison, from whence he was subsequently discharged. An old man was transferred on two occasions temporarily to the Port Pirie Hospital for medical treatment. One inebriate was transferred from the Yatala Labour Prison for attempting to escape from the work yard. He endeavoured to escape from the institution, but was re-captured within a short time. He did not realize that he was doing anything wrong.

The health of the inmates was regarded as satisfactory, allowance being made for the fact that many of them were old persons and all were inebriate. The conduct of the inmates, however, was less satisfactory. One individual was charged with repeated insolence, and with having used threatening language. He became incorrigible and was eventually sentenced to six months' hard labour at the Yatala Labour Prison. In all, 13 of the inmates were dealt with for breaches of the regulations.

All the inmates were required to carry out some form of work. As far as possible, the employment was the same as had been followed during freedom. In many instances the labour of the inmates represented a considerable saving to the institution. Five of the inmates remitted portions of their earnings to reputable relatives in need of pecuniary assistance. The total amount remitted by these five persons in the course of the year was £37 4s. Half the earnings are held to the credit of the several inmates. One man, 50 years of age, who was a labourer when at liberty, was employed in the making of curtains. He had amassed £48 19s. 1d. between April, 1917, and December, 1918. The ages of the inmates in the institution on the last day of the year varied between 26 years and 78 years. The average for the males was just under 53 years, and for the females just over 44. The age of the youngest male was 28 and of the oldest 78 and of the youngest female was 26 and of the oldest 63.

The experience of these institutions, not only in South Australia, but also in the majority of other countries, is extremely disheartening. Some consolation, however, may be gathered from the fact that the convicted inebriate represents the worst of his class, and the outlook is not so black when the whole population of inebriates can be taken into the purview. It is doubtful, however, whether the environment of the prison institution offers a reasonable prospect for curative work.

THE JAMES BROWN HOMES.

In 1892 the James Brown Memorial Trust was founded in South Australia and two years later the Trust was incorporated by act of Parliament. Two institutions have been established under this Trust. The Kalyra Sanatorium at Belair accommodates persons suffering from tubercular disease, whilst Estcourt House, near the Semaphore, is a home for the aged blind and for crippled children. In the general report of the Trust, the Chairman points out that a proper system of sanitation is urgently needed at Kalyra. The work cannot be carried out at present, because the £1,000 necessary is not available. He appeals to the charitable public to provide the money.

Kalyra Sanatorium.

During the course of the year 1918-1919, 114 persons were admitted to the Sanatorium. There were 45 under treatment on the first day of the year and 40 on the last. The number of persons discharged was 117, of whom 19 had their disease arrested. Two patients died. Of the 119 patients admitted, 36 were in the first stage of the disease. The disease was arrested in 18, while improvement was achieved in an equal number. There were 54 with their disease in the second stage and, of these, only one had the disease arrested. Improvement was recorded in 40 instances, while 13 patients left the Sanatorium unimproved.

There were 29 patients with advanced tubercular disease. Improvement was achieved in four, 23 were discharged unimproved and two died. The average length of residence was 135.3 days per patient. It was slightly longer among the patients of class II. and shorter among the patients of class III.. A gain in weight was registered in 88 patients, maintenance of weight in 8 and a loss in 21. The average gain was 11.5 lbs.

The first symptom of the disease was cough in 60 patients, debility in 17, hæmoptysis in 16 and pleurisy in 13. Other symptoms, such laryngitis, dyspepsia, loss of weight, etc., occurred as first symptoms in single cases. Twenty-nine patients were admitted to the Sanatorium within three months of the apparent onset of the disease, 24 within six months, nine within nine months, 18 within one year, nine within two years and twelve after two years. In regard to treatment, artificial pneumothorax was established in seven patients. In six the treatment was apparently beneficial.

The Sanatorium has been in existence for 14 years. During the first six years 700 patients have been discharged. Of these 700, 492 died within ten years of their discharge. It thus appears that 50% of the patients died within two years of leaving the Sanatorium, 65% within five years and 70% within ten years. On the other hand, information concerning the fate of 124 patients was not available. Of the 700 patients discharged before the end of June, 1911, 84 or 12% were known to be living in good health in 1919. The total number of patients discharged up to June 30, 1919, was 1,609, and, of these, 369 are entered under the category of "disease arrested." It has been ascertained, however, that approximately 30% of the patients discharged in this category are alive and well after eight years. Dr. J. Walter Browne has therefore come to the conclusion that cure may be assumed in a patient who is apparently well eight years after discharge, when the disease is arrested. It is significant that during the first six years after the establishment of the institution, 34.7% of the patients were in an advanced stage of the disease in which arrest is never complete and a further 40.3% are in the second stage of the disease, in which arrest is rare.

Estcourt House.

A short medical report for the year ending June 30, 1919, dealing with the year's work at Estcourt Home, is appended. Among the inmates there are three children with tuberculous disease of the spine. These patients are said to be doing well. One boy with double hip disease had persistent discharging sinuses. A case of scarlet fever occurred among the inmates. The patient was promptly isolated and the infection was controlled.

Special Correspondence.

(By Our Special Correspondent.)

LONDON LETTER.

The Control of Venereal Disease.

Practical proposals for dealing with the dangers of an increase of venereal disease after the troops have been demobilized have been recently issued by the "National Council for Combating Venereal Diseases."

Public support is requested on the basis of the following recommendations:—

1. That the Local Government Board should authorize the appointment of whole-time venereal officers on the staffs of the medical officer of each county or county borough. That the present hospital accommodation should be supplemented by *ad hoc* clinics under the supervision of such venereal officers in every town of over 10,000 inhabitants and also in the county boroughs. The military authorities are asked to free immediately as many venereal specialists as the Local Government Board may require, in order that the time before demobilization may be used to establish the clinics, to be available early in the New Year.

2. That hospitals and medical schools be requested to arrange special post-graduate courses for the training of medical women in the modern methods of treatment.

3. That some means should be devised to encourage medical practitioners to diagnose venereal disease in patients and to give early preventive treatment.

4. That the *Army Act* should be so amended as to enable infective men to be retained in the Navy and Army pending the completion of treatment, in order that they may return to civil life in sound health.

5. That it should be made a statutory obligation for every individual suffering from venereal disease to obtain and to continue treatment until cured.

6. That the Local Government Board should consider immediately whether some form of confidential notification of infective cases could be adopted under existing powers, and whether at a later date fresh powers could be obtained from Parliament to secure continuous treatment.

7. That the Minister of Munitions should give instructions that all men and women working for national and controlled firms should receive adequate instructions from responsible medical men and women.

8. That Clause 3 of the *Criminal Law Amendment Bill*, as amended by the National Council, should be passed as a short Act as early as possible next session.

9. That an orginization should be created which could train large numbers of young girls in skilled employment, under discipline, returning them as self-supporting members of the community as soon as possible and with no permanent slur on their character.

10. That the *Mental Deficiency Act* should be amended to protect the mentally defective individual suffering from venereal disease and the morally defective person.

11. That the Home Office should be asked to encourage each town and county to appoint an adequate number of women police without delay.

12. That the organization of voluntary women patrols should be increased.

13. That social organizations should redouble their efforts to provide adequate recreation, under healthy conditions, for the youth of the country, especially during the present period of rejoicing.

The Medical Research Committee.

The fourth annual report of the Medical Research Committee was issued early in November, 1918.

During the war the Committee has given its services freely to the Army, and the present report is, in consequence, largely a war report.

Three facts, the Committee thinks, stand out prominently to-day in the domain of medical research. The first is the awakened interest in scientific work and increased recognition of the value of medical research. The second is the remarkable triumph achieved by the bacteriologist in this war. Finally, for the first time the important bearing of physiology on general medicine has received adequate recognition. The violences offered to the human body in warfare, whether through exertion and exposure, by terror or excitement, in physical damage by lead or steel, or in chemical attacks on it by poison and not least through the incredible stress of flying high and fighting in the air, all these have brought many new and urgent calls for precise physiological knowledge. Physicians have been forced to study health in order to comprehend the reactions of the body to these new conditions. The permanent value of this is likely to be a change in the general attitude to disease and a disposition, perhaps, to regard it rather as a deviation from health than as a separate entity.

The researches cover a wide field and include work upon war wounds, antiseptics, the disabilities of airmen, heart troubles, consumption and industrial fatigue, the health of munition workers and food. Though no very striking new facts are recorded, much valuable progress has been made. Undoubtedly the most important departure is the investigation into the causes of fatigue among workers. This kind of research is of very great value and is bound to be carried much further than at present. It is therefore satisfactory to learn that when the work of the Health of Munition Workers Committee had ended, a desire was widely expressed, and notably by the Home Office, that arrangements should be made for maintaining on a more permanent footing an organization for the systematic investigation of the natural laws of industrial fatigue. The Advisory Council of the Scientific and Industrial Research Department, with the Medical Research Committee, have now, therefore, appointed an Industrial Fatigue Research Board.

The Effect of the War on the Hospitals of London.

The annual report of King Edward's Hospital Fund shows how seriously the work of the metropolitan hospitals has been affected by the war.

During the year 1917, 147,598 patients were admitted to the wards of the various London hospitals and 1,152,022 were treated in the out-patient departments. Of the in-patients 28,013 were naval and military patients treated by arrangement with the authorities. They represented an average for the whole year of 3,656 occupied beds, or 31% of the total average occupied beds—an increase over 1916 of 801 beds. The average number of occupied beds in 1913 was 9,732; last year the number was 11,729. The result of the demand for beds on account of the war was that, while there was an increase of 1,997 in the beds provided, the number of beds available for civilian patients has been reduced by 1,659.

The total ordinary expenditure during the year amounted to £1,719,030, towards which the hospitals received £268,960

for service patients, leaving £1,450,070 to be met out of the normal sources of hospital revenue, against £1,138,530 in the year before the war—an additional working expenditure of £311,540, or 27.36%. The heavy additional burden thrown upon the hospitals by the great rise in prices of foods, drugs and all other requisites was more than doubled during the year.

Science as a National Asset.

A lecture delivered at the Royal Society of Arts on November 20, 1918, by Mr. Campbell Swinton directed attention to the important part in the future to be taken by science. He pointed out that undoubtedly the main capital of the modern world consisted of scientific knowledge. The war had resulted in enormous destruction of capital, but capital did not merely consist of gold and silver, bricks and mortar, or even of railways, steamships and machinery; all of them were ancillary to science. When we compiled our war losses let us not forget that our greatest asset, the store of knowledge science had collected, was still intact. Without the aid science gave to agriculture the earth even now could not support its population. It had been estimated that the total population the earth could maintain would be reached about 2100 A.D.. If once the stage were reached in which population increased more rapidly than means of sustenance, then neither leagues of nations nor anything else would prevent conflicts between peoples struggling in dire necessity. The main resource when coal was exhausted would have to be the enormous flood of solar radiant energy that was falling on the earth. The problem was, how could this be utilized? The direct transformation of radiant energy into chemical or even into electrical energy was by no means impossible. The former transformation was already effected, inefficiently, by plants and on a small scale in photographic processes, where light caused chemical reduction; Becquerel and Minchin had shown how radiant energy could be transformed into electrical. Perhaps in photo-electric chemistry we had the most important problem the science of the future had got to solve.

Trained Midwives for Ireland.

Since January 1, 1919, all women practising as midwives in Ireland otherwise than under the direction of a registered medical practitioner have to be certified under the *Midwives (Ireland) Act, 1918*. The chief functions of the Central Midwives Board set up by the Act are to regulate training courses and examinations for certificates, to publish the roll of certified midwives annually and to make rules as to discipline, suspension and cancelling of certificates. This Board has now been constituted as follows:—

Appointed by the Local Government Board for Ireland: E. C. Bigger, M.D., Medical Commissioner of the Local Government Board for Ireland.

Appointed by the Local Government Board for Ireland after consultation with the County Councils and County Borough Councils: H. T. Warncock, F.R.C.S., Irel.; Alderman J. McCarron.

Elected by the registered medical practitioners resident in Ireland: Sir A. J. Horne, Sir W. J. Smyly, M.D., Sir J. W. Byers, M.D., Professor H. Corby, M.D., Dublin.

Appointed by the Local Government Board for Ireland under Section 3 (1) (*c*): Miss J. H. Kelly, Matron, Maternity Hospital, Belfast; Mrs. M. Blunden, late Matron, Lying-in Hospital, Cork; Miss A. Michie, Superintendent for Ireland, Queen Victoria's Jubilee Institute for Nurses; Miss G. O'Carroll, Matron, Coombe Lying-in Hospital, Dublin.

Section 3 (1) (*c*) of the Act provides for the appointment of four women (referred to in the Act as midwives' representatives), of whom three shall be appointed after consultation with recognized nursing associations in Ireland.

Correspondence.

THE TREATMENT OF RETROVERSIO UTERI.

Sir,—There has been a very interesting discussion on operative cure of the retroverted uterus recently, following Dr. Ritchie's thoughtful address. Dr. Chenhall's account of his method of dealing with the round ligaments is a good example of operative zeal, characteristic of all who do not practise Alexander's classical operation.

I am of opinion that the first consideration of the surgeon in these cases is the possibility of curing the displacement without opening the abdominal cavity. No one can deny that the effects of laparotomy, however small the incision of the peritoneum, may be serious. In fact, I do not think it an exaggeration to say that too large a proportion of patients never feel the same after such an experience. It is for this reason that Alexander's operation should have its merits in any individual case fully considered. It was devised by its author for uncomplicated cases and, if included among such selected cases there should be a few unsuspected complicated ones, the surgeon has the satisfaction of knowing he has done his patient no harm. This is more than can be said of operations requiring the introduction of the hand, or even fingers, into the peritoneal cavity. I regard Alexander's operation as one of the finest conceptions in gynæcological surgery, both on account of its simplicity and its conspicuous regard of the *statuo quo ante* of the structures within the female pelvis.

Yours, etc.,

J. C. F. HALFORD.

"Turrawan," Clayfield, Queensland,
November 11, 1919.

We regret to announce the death of Dr. Gertrude E. Mead, of Perth.

Francis Hollingsworth May, Esq., L.R.C.P., Lond., 1890; M.R.C.S., Eng., 1890; L.S.A., Lond., 1890; D.P.H. Fac. Phys. Surg., Glasg., 1891, of Gunnedah, has been nominated for election as a member of the New South Wales Branch of the British Medical Association.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

The undermentioned have been registered, under the provisions of the *Medical Act, 1912* and *1915*, as duly qualified medical practitioners:—

John Dale, Mem. R. Coll. Surg., Eng., 1908; Lic. R. Coll. Phys., Lond., 1908; M.B., Bac. Surg., 1908; M.D., 1919, Univ. Birmingham, Mosman.

William Dempsey Quilty, M.B., 1915, Univ. Syd., Tumut.

Gordon Ochiltree Robertson, M.B., Bac. Surg., 1916, Univ. Melb., Gundagai.

Douglas Robson Wallman, M.B., Bac. Surg., 1918, Univ. Adelaide, Drummoyne.

QUEENSLAND.

The undermentioned have been registered, under the provisions of *The Medical Act of 1867*, as duly qualified medical practitioners: —

Anderson, Ruth Pearl, Children's Hospital, Brisbane, M.B., Ch.B., Univ. Melb., 1918.

Hunter, Hugh, Mackay, M.B., Univ. Syd., 1918.

Langdon, Charles Stanley Blake, Brisbane Hospital, M.B., Ch.B., Univ. Melb., 1919.

Leeds, Robert Harvey, Rockhampton, M.B., Ch.M., Univ. Syd., 1915.

McGuinness, Edward John, Mater Misericordiæ Hospital, South Brisbane, M.B., Ch.M., Univ. Syd., 1919.

Power, Francis Grene, Brisbane, M.B., Ch.B., Univ. Edin., 1912; L.R.C.P., L.R.C.S., Edin.; L.F.P.S., Glasg., 1912.

St. Ledger, Anthony Waddington, Cunnamulla, M.B., Ch.B., Univ. Melb., 1918.

Waters, Horace Stanley, Lady Bowen Hospital, Brisbane, M.B., Ch.B., Univ. Melb., 1918.

van Someren, Bertram, Brisbane Hospital, M.B., Ch.M., Univ. Syd., 1916.

TASMANIA.

The undermentioned gentlemen have been registered by the Medical Council of Tasmania, appointed under the provisions of *The Medical Act, 1908*, as legally qualified medical practitioners:—

Leslie John Shortland, M.B., Ch.M., Sydney, 1918.

Henry Holland Monckton, L.S.A., Lond., 1898.

Colin Hasler Martin, M.B., B.S., Melb., 1915.

Books Received.

MIND AND ITS DISORDERS, A Text-Book for Students and Practitioners of Medicine, by W. H. B. Stoddart, M.D., F.R.C.P., Third Edition; 1919. London: H. K. Lewis & Co., Ltd.; Demy 8vo., pp. 580, with 81 illustrations, including 9 plates. Price: 18s. net.

THE EXACT DIAGNOSIS OF LATENT CANCER, An Enquiry into the True Significance of the Morphological Changes in the Blood, by O. C. Gruner, M.D.; 1919. London: H. K. Lewis & Co., Ltd.; Royal 8vo., pp. 79, illustrated by 19 plates.

A HANDBOOK OF GYNÆCOLOGY for the Student and General Practitioner, by Bethel Solomons, B.A., M.D., F.R.C.P.I.; 1919. London: Baillière, Tindall & Cox; Demy 8vo., pp. 236, with 196 illustrations. Price: 10s. 6d. net.

BORONIA BABIES, by May Gibbs; 1919. Sydney: Angus & Robertson, Ltd.; Demy 8vo., pp. 24, with one coloured and 11 other pictures. Price, 1s. 6d.

MANUAL OF ANATOMY, SYSTEMATIC AND PRACTICAL, INCLUDING EMBRYOLOGY, originally written by the late A. M. Buchanan, M.A., M.D., C.M., F.R.F.P.S.; Fourth Edition; edited by a Committee of Anatomists in London; 1919. London: Baillière, Tindall & Cox; Demy 8vo., pp. 1,743, with 677 illustrations, some in colours. Price, 30s. net.

THE PRINCIPLES OF GYNÆCOLOGY: A Manual for Students and Practitioners, by W. Blair Bell, B.S., M.D., Fourth Edition; 1919. London: Baillière, Tindall & Cox; Royal 8vo., pp. 660, with 390 illustrations and 6 coloured plates. Price, 38s. net.

DEMENTIA PRÆCOX AND PARAPHRENIA, by Professor Emil Kraepelin, of Munich, translated by R. Marcy Barclay, M.A., M.B., edited by George M. Robertson, M.D., F.R.C.P.; 1919. Edinburgh: E. & S. Livingstone. (Published by Licence of the Board of Trade under the "Trading with the Enemy Amendment Act, 1916.") Demy 8vo., pp. 331. Price, 15s. net.

AIDS TO MATERIA MEDICA, by Arnold E. Collie, M.A., L.M.S.S.A.; 1919; London: Baillière, Tindall & Cox; Foolscap 8vo., pp. 116. Price, 3s. net.

Medical Appointments.

During the absence on leave of Dr. C. W. Laver, Dr. R. H. Minton Connell has been appointed Acting District Medical Officer at Menzies, Western Australia.

The appointment of Dr. H. R. Pomeroy (B.M.A.) as Acting District Medical Officer at Collie, Western Australia, during the absence of Dr. W. H. Rigby (B.M.A.), is also announced.

Dr. Thomas Warren (B.M.A.) has been appointed part-time Medical Inspector of Schools, Mount Morgan, Queensland.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society..
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Nov. 25.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Nov. 25.—Vic Branch, B.M.A., ballot paper issued for election of office-bearers of Branch.
Nov. 26.—Vic. Branch, B.M.A., Council.
Nov. 27.—S. Aust. Branch, B.M.A..
Nov. 28.—Q. Branch, B.M.A., Council.
Nov. 28.—N.S.W. Branch, B.M.A..
Dec. 2.—N.S.W. Branch, B.M.A., Ethics Committee.
Dec. 2.—Tas. Branch, B.M.A., Branch and Council.
Dec. 2.—Ballot papers returned to Victorian Branch for election of office-bearers of Branch.
Dec. 3.—Vic. Branch, B.M.A., Annual General Meeting; announcement of election of office-bearers.
Dec. 5.—Q. Branch, B.M.A..
Dec. 5.—Eastern District Med. Assoc. (Taree, N.S.W.).
Dec. 9.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Dec. 11.—Vic. Branch, B.M.A., Council.
Dec. 12.—N.S.W. Branch, B.M.A..
Dec. 12.—S. Aust. Branch, B.M.A., Council.
Dec. 12.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney.